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KING COAL'S LEVEE,

OR

GEOLOGICAL ETIQUETTE,

&c. &c.

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KING COAL'S LEVEE,

OR

GEOLOGICAL ETIQUETTE,

WITH EXPLANATORY NOTES;

AND THE

COUNCIL OF THE METALS.

FOURTH EDITION.

TO WHICH IS ADDED,

BARON BASALT'S TOUR.

LONDON:

PRINTED FOR LONGMAN, HURST, REES, ORME, AND BROWN;

AND J. UPHAM, BATH.

1820.

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Scalkin

TO THE

GEOLOGICAL SOCIETY OF

LONDON,

THIS HUMBLE ATTEMPT

TO RENDER MORE POPULAR A SCIENCE

OF WHICH DAILY EXPERIENCE PROVES THE INCREASING

UTILITY,

IS INSCRIBED,

WITH EVERY SENTIMENT OF RESPECT,

BY

THE AUTHOR.

PREFACE

TO THE SECOND EDITION.

The first Edition of this Poem consisted of a few copies only, for private distribution. It has now more than doubled its former size: and the author begs leave to acknowledge his obligations to the Rev. W. Conybeare of Christ Church, Oxford, for his scientific hints towards the enlargement of the Text; and to the Rev. W. Buckland, Professor of Mineralogy and Geology in that University, for his kind assistance in considerable additions to the Notes.

KING COAL'S LEVEE,

OR

GEOLOGICAL ETIQUETTE.

———————— come, come; I am a King,
My masters, know you that?

SHAKSPEARE.

NOTE.

The reader will observe that this work is only intended to exhibit the geological features, and order of stratification of *England* and *Wales*.

KING COAL'S LEVEE,

OR

GEOLOGICAL ETIQUETTE.

HAIL shadowy power and subterranean state!
Still may such pomp around the monarch wait,
Still may the grovelling herd in silent awe
Bend at his throne, and make his nod their law.
And may some minstrel soul in happier vein,
With high-ton'd harp, in louder loftier strain,
Spread through this middle world the glories of his reign!
King COAL, the mighty hero of the mine,
— Sprung from a dingy, but a far-fam'd line,
Who, fathoms deep, in peace our earth possest,
Curb'd but in sway by ocean's billowy breast, —
Would hold a Levee: by such gorgeous scene
To please PYRITES, his alluring queen.
Would wield the sceptre sovereign fate decreed,
Enforce obedience, smile the welcome meed,
And prove his pow'r from Vectis to the Tweed.

Forth flew the mandate; earthquakes through the land
Spoke in hoarse tones the monarch's high command:
Air caught the sounds, and in expansion free,
Spread the deep word to Albion's circling sea.
— Each pond'rous sire, each grave or sprightly dame,
Must bow before the prince of smoke and flame;
Must bend their steps, howe'er unus'd to rove,
To greet the dusky King, and his resplendent love.
On ebon throne, with choicest gems enlaid,
Sat the two tenants of earth's darkest shade;
She bright and blithe, and blooming as the spring,
He stern and stately, " every inch a King."
From vaulted roof, in glist'ning arches turn'd,
Around the throne the silv'ry gas-lights burn'd;
Rose high in air, with soft ethereal fire,
That left the day no object of desire.
Mirrors of MICA, black, red, green, and white,
Mingling a rich and parti-colour'd light,
Suspensive dwelt those silv'ry suns between,
And pour'd their changeful splendor on the scene.
On either side, at awful distance, stood
The subtle-minded gnomes, a swarthy brood;
The monarch's pages they, — well train'd to bear
His instant mandates through earth, sea, or air.
Ethereal spirits, — but to visual ray
Now bodied forth, in habits rich and gay:
With tinsel stars upon each velvet dress;
— Conductors of the eye to ugliness!

Each in his hand a staff of office bore,
And grave they stood as mutes beside the dead man's door.

Beneath the queen so costly and so bright,
The maids of honour, rob'd in purest white,
Soft-smiling beauties, cheer'd the dazzled sight.
As in mild summer-nights the gazer sees,
When Heaven is fair, and hush'd is every breeze,
The constellation of the Pleiades.

Behind the throne, triumphant music shed
Its loudest notes around the monarch's head.
The shrill-tongued trumpet, and the deep bassoon,
And cymbal, emblem of the pale-fac'd moon,
From full-blown cheeks, and brawny arms combine
To wake the drowsy echoes of the mine.

Earth shook,—and well it might; for now the throng
In indolent procession mov'd along:
Mov'd,—and around a hollow murmur sent;
Mov'd on,—and star'd, and wonder'd how they went.

What boots it here, in glowing verse to tell
The dire events earth's puppets that befell;
What boots it here, though earth affrighted saw
Another Lisbon yield to nature's law;
Though thousands died,—it but abridg'd the span
That fate allotted to the creature man.
Rocks moving harmless would indeed be rare!
—Sufficient for our purpose, they were there.

They met, they marshall'd, all in order due,
Nor master of the ceremonies knew.
No hasty word, no brooding spirit rose,
Spark of hostility, and nurse of foes,
Precedence quick its lucid progress show'd:
— Have mortals always trod this tranquil road?
The rich saloon, the anti-room they pass'd,
And reach'd the spacious presence-hall at last.
Duke GRANITE first; — a hoary-headed sire,
Yet blest with symptoms of primæval fire,
That beam'd across the traces of decay,
As vivid tints illume departing day.
Of *solid* parts, of judgment ne'er asleep,
And had through life been reckon'd *very deep*.
Announc'd by GNEISS, with dignity he came;
King COAL arose, as did his graceful dame;
And welcom'd him, as one in high command,
Who bore the greatest burthen in the land.
There was — as far as our researches go —
No *slight* foundation for their thinking so.
That GNEISS was but a weather-beaten man,
(And Queen PYRITES smil'd behind her fan,)
With shanks so small, and such a thin-sown pate,
He was indeed in *decomposing* state.
Youth will indulge in levity; but age
Reads the words written on life's fading page:
And most we feel for those who shar'd our way
In joy or grief, from youth's attractive day.

Thence did the Duke esteem of sterling price
That lonely man the weather-beaten GNEISS;
And prov'd at once his master, and his friend,
Determin'd to support him to the end.
Next, Marquis SLATE that aged pair reliev'd,
And was indeed most graciously receiv'd.
Here did he court an advantageous light,
But to the world he was a testy wight:
Would *split* with his best friends upon occasions slight.
Of wealth abundant, from his Cornish vales;
Own'd too a principality in Wales;
And gaz'd from Cumbria's hills, with pleasing glow,
Upon each liquid mirror spread below.
Of proud pretensions, and exalted mien,
Grac'd by the visits of the glittering queen;
For on his azure couches oft reclin'd,
She gave to soothing indolence her mind.
Or in the bow'r his loyal service form'd,
(When summer suns the sloping strata warm'd,)
Around *Dendrites* link'd each bright festoon,
To screen her slumbers from the eye of noon.
But what are honours? what are fame and wealth,
Depriv'd of that divinest blessing, health?
Long had convulsions dire the Marquis vex'd,
Long had his case the faculty perplex'd.
Seiz'd by strong hand invisible, he lay
Shatter'd and writhing in the face of day:

The doctors met,—look'd solemn,—talk'd, and heard,—
With many a hard *sesquipedalian* word;
"'Twas strange, 'twas passing strange, 'twas wonderful!"
Yet all in vain they clubb'd each learned scull,
Endless contention all the fruit it bore:
They went, they came, prescribing o'er and o'er,
And pocketing their fees,—no wiser than before.
If they unriddled not, oh! how should we?
"Who can decide, when doctors disagree?"
Then Countess PORPHYRY came, a dowager,
In portly person few could equal her.
She stepp'd with careless air, with heavy tread,
In sober garb, and with dishevell'd head;
Nor wore the sanguine robe on Albion's coast,
That still she owns,—her bright Egyptian boast.
PYRITES bridling, thought her dress quite shocking,
Till the king whisper'd, "she's a prime blue stocking:
"And literary dames, you know, profess
"To soar above such small concerns as *dress*."
Then in the hall Earl SERPENTINE was seen,
A handsome man, and clad in forest green:
Of small possessions, though his rank was high,
He bow'd, and pass'd almost unheeded by.
The Earl had been a spendthrift, his demesne
Had vanish'd like the summer-drops of rain,
When soft they fall upon the thirsty plain:
Till costs of law, in actions to defend,
Had driven him, aye,—almost to the *Land's End*.

Next Viscount SIENITE the presence sought,
(A strong resemblance of the Duke some thought,)
Proffer'd his bow with elegance and ease,
Like one who deem'd himself quite sure to please:
Like one who felt he might command respect:
— For large possessions will have that effect.
As such the King receiv'd him, passing well;
And from his princely lip some bright things fell,
— But what they were, no one could ever tell.
He was a mirthful peer, he lov'd a jest,
And, of philosophers, had oft exprest
He thought Democritus by far the best.
And to one HORNBLENDE closely was attach'd,
Who for dry humour could be seldom match'd:
Indeed so intimate these worthies grew,
That whosoever, casting round his view,
Could see the Viscount, — would see HORNBLENDE too.

Then Count GRAUWACKE resolutely strode,
Who made our isle but lately his abode:
Of frame robust, and freckled face was he,
— By wizard Werner bred in Saxony.
Werner, whose pow'r, by kindling fancy led,
O'er the dull Nucleus each light coating spread,
As ocean revell'd on its spacious bed.
With zealous care each shrinking cleft explor'd,
And there the rich metallic treasures pour'd,
To earth's deep-delving sons an unexhausted hoard.

On came the Count; his greas'd mustachios twirl'd,
And the grey fume of Indian weed unfurl'd,
Till, wrapp'd in vapoury banner, scarce was seen
The soldierly salute he paid the Queen.
PYRITES whisper'd in the monarch's ear,
" Defend me, Sire; — oh! let him not come near!
" What brings that fumigating monster here?"
To her the King replied, " This fertile realm
" The Count hath sought, as Justice rul'd the helm;
" She steer'd his course across yon northern sea,
" She cheer'd his hopes for legal victory.
" On Marquis SLATE a harsh usurper's name
" GRAUWACKE pours, and strives to prove the same:
" Searcher of titles, the demesne of SLATE
" He calls his own; excludes not one estate:
" Keen in the strife, would see the Marquis driven
" From every inch he owns beneath the Heaven.
" But if the law, with gouty step, moves on
" All tortoise-like, as it hath lately gone,
" The Count, amid postponements and revision,
" May die, smoke dried, before the last decision."
PYRITES smil'd, and sweetly deign'd to say
That Shakspeare mention'd too " the law's delay."
Near these disputed lands;—in Cumbria's vale,
—Within thy bounds, romantic Borrodale!—
Liv'd one PLUMBAGO, of mix'd parentage,
But as a drawing-master quite the rage.

A shining character upon the whole,
And distantly related to King COAL:
But ah! that honour was of little weight,
For his was but a melancholy fate!
—The object of tyrannic pow'r was he,
They held him barr'd in close captivity:
At stated times his goods they bore away,
And sold them boldly, in the face of day.
But such effect had their vile treatment wrought,
He could not last much longer, it was thought.
Next came the elder SANDSTONE, jolly fellow!
In good society was ever mellow:
Which spread—as oft it will in such a case—
A rubicund diffusion o'er his face.
He was a staid old toper; one who sat
Firm on his chair, though blind as any bat.
The younger SANDSTONE met no voice of praise,
He had not steer'd his course by virtue's rays,
But truth pronounc'd him—given to *loose* ways.
His brother waited 'mid the marshall'd throng
For his arrival, and had waited long;
He came not;—and with patience fairly spent
Old SANDSTONE to the presence-chamber went.
Yet some allowance might be justly made,
—We should not be too hasty to upbraid,—
Between the brothers a fair manor lay,
That own'd the great Sir Lawrence LIMESTONE's sway:

Some crown-lands also yearly profit pour'd
To aid the splendor of the monarch's board.
Another cause too shall the Muse produce,
Alone sufficient to enforce excuse.
His youth was wildly pass'd,— but time will mend
Our early frolics;— all things have their end.
He had redeem'd his fame in some degree,
And of the married state thought feasibly:
Had to Miss GYPSUM due attention shown,
And trusted soon to call the fair his own;
For she was fair, aye, and an heiress too,
Which might account for such attention due.
But oh! *her* beauty could wake small delight,
Compar'd with her sweet cousin SELENITE:
Into whose eyes were one peep only given,
The gazer might be snatch'd, Mohammed-like, to Heaven.
But she was born no riches to inherit;
And poor relations have but little merit.
These rosy brothers such resemblance bore,
That strangers were mistaken o'er and o'er.
In every step of business they transacted,
A comedy of errors quite was acted:
Nay, poor Miss GYPSUM scarcely could descry
Which of the SANDSTONES she was courted by.
The younger too was deem'd a witty cub,
Dispenser of the dry facetious rub:

SALT was in all the speeches that he made,
But not the genuine *attic*, I'm afraid.
None but himself possess'd this darling pow'r,
This true enlivener of the wintry hour:
The old one, sober, was a heavy soul;
Had but *one* joke,—and crack'd it o'er the bowl.
The race of SANDSTONE could produce some others,
But not with joyous faces, like these brothers:
Poor puny things, with white and sickly looks,
Or pale and spotted, like worm-eaten books:
Had nothing in their air that was commanding,
Nor blest with any depth of understanding.
They might indeed their seats in silence take
At the King's board,—for old acquaintance sake,
To smile at every *fadaise* he should say,
—But it was always in a *private* way.
Such meagre forms, not one of all the bevy,
Could make a decent figure at a levee:
They wisely therefore dubb'd their two relations,
Their representatives in these *formations*.
Degenerate beings! uselessly ye claim
A pedigree from one illustrious name:
How ill such Lilliputian trim assorts
With line collateral from the great Lord QUARTZ!
—This to the elder branch precedence gave,
Sons of that peer now slumb'ring in the grave.
But time beheld the marriage-honours grace
These puny youths, and LIMESTONE's blooming race:
And hardy were *their* sons, and handsomer in face.

Old SANDSTONE still stood curv'd in awkward bow,
And studying to retreat, he scarce knew how;
When, with firm step, and features mark'd by thought,
Sir Lawrence LIMESTONE the high presence sought.
He was a man of stern and grasping soul,
Extensive districts bow'd to his controul.
Of humour fertile, others gloom to mark;
Yet could himself at times look *very dark;*
Rather forgetful of his friends, when parted;
Nay, sometimes he had seem'd quite *hollow-hearted.*
The fame of wealth he very justly bore,
Could always boast of pockets lin'd with *ore,*
Though annual thousands from those pockets ran
In *dilettanti* whims, that mark'd the man.
A *virtuoso,*—love of nature rul'd
At times his mind, and every action school'd.
His was the pleasing duty to unfold
What "ocean's dark unfathom'd caverns" hold:
Each spiral tube fantastically wreath'd;
Each chamber'd shell in pearly lustre sheath'd;
The blushing star; the sea-flower's lillied head,
With flexile stalk upon its rocky bed,
Articulated, curving with *light sweep;*
And all the living antlers of the deep.
His was the pleasing duty to preside
Where science spread her reign sublimely wide;
His to direct a bright and chosen band
In sage researches o'er the sea and land;

His to trace nature through her wildest pranks,
—And second *only* to Sir Joseph Banks.
To chemistry Sir Lawrence too inclin'd,
With all his wonted energy of mind.
Combin'd his agents in proportions due,
Then forth the healing mineral waters drew:
Saline, sulphureous, or bright sharp carbonic,
Mildly aperient, or as mildly tonic;
All in the brimming glass went freely round,
All willing throats, but squeamish stomachs found.
Where airy Harrowgate oft reads the trace
Of deep disgust on woman's lovely face,
Where Avon's tide runs muddy to the sea
From Bristol seat of quiet luxury,
Where Matlock looks from its romantic vale
On frowning hills, that storms in vain assail,
To great Sir Lawrence flow'd unceasing wealth,
And to earth's happy sons increasing health.
As oft in these our upper realms we see,
His taste descended to his progeny;
But the wide means fate sternly swept away,
—Nor ore, nor coin, within their coffers lay:
Land they possess'd, aye, many a fertile rood,
And nicknacks—they collected as they could.
Where went the wealth that should such taste advance?
—Perhaps exported,—to be spent in France.
As for the coin; the Bank might haply tell
How of that medium, such dire dearth befell:

Coin, of late years,—and years of sorest need,—
Hath been a scarce commodity indeed.
Of the world's wonders,—earliest seen, or latest,—
A realm on *paper-diet* is the greatest!
Four sons had great Sir Lawrence; and the four
A different stamp of mental habits bore.
The first—but here the Muse would fain suppress
The Baronet's gay youthful thoughtlessness,
Did not all-ruling Truth the theme pervade;
She says, "reveal," and she must be obey'd,—
The first illicit love to being call'd,
When fair MAGNESIA his warm soul enthrall'd:
Long at her feet he breath'd the ardent vow;
Ere yet the lineal honours grac'd his brow.
This was the fruit;—and on his sallow face
A mother's fondness might her features trace;
Her temper too around the stripling clung,
Display'd in quick *causticity* of tongue.
Cast on the world, a father's warmth unknown,
The part he played in life was all his own:
In him the younger SANDSTONE promptly found
A led companion through each freakish round.
The next was LIAS LIMESTONE, hight Esquire,
Perhaps the nearest emblem of his Sire;
Born, happier youth, in wedlock's holy bands,
And blest with wider and more fertile lands,
Endow'd with active mind and feelings strong,
He might have walk'd respected 'mid the throng,

Had he not yielded up his sense of right
To one Jack Clay, a noted parasite;
Whose mind with his would just such contrast hold,
As brass pourtrays when rang'd by sterling gold.
Beneath such guidance, to fair virtue's meed,
To good men's praise, oh! how could he succeed!
— Explain this enigmatic influence?
— Why thus it stands, — Art *versus* Indolence
O'er him, in sensual pleasure drowning worth,
Night sorrowing wept, and day came blushing forth.
On Lias had a father's care bestow'd
The knowledge whence his riches partly flow'd.
In that bright theatre of fashion's dreams
Where Bladud first disclos'd hygeian streams,
Where gouty peers, and dowagers of wealth,
In floating robes, are parboil'd into health,
And where gay Cheltenham from her double urn
Grants sickly visitants a blest return,
Form'd by his skill, the crystal waters drew
From the mix'd votaries ample revenue.
But Clay was purse-bearer; and to be sure
Knew well the reason why his friend was poor.
Of native genius blest with ample store,
Squire Lias nurs'd one *useful* talent more.
On the smooth stone he bade the graver trace
The mimic form, the well-remember'd face;
Thence quick transferr'd, the fond memorial bear
To the sad sire's or hapless lover's care,
Seeking the summer-shade, to weep in silence there.

The third young worthy, sprung from Limestone Hall.
Was Mr. Oolite, plump, pale, and tall;
But delicate whene'er from home he came,
Till sun and air had brac'd his languid frame.
Calm was his soul, on building only warm;
Square, paragon, and crescent, every form
That art masonic on our earth hath laid
He aptly knew, and lent his needful aid.
He too, where Bladud's boiling springs arise,
Joy'd in the city's still increasing size;
And, gazing forth to Lansdowne's airy site,
Said with a smile, "Behold my lawful right!"
He came not to the Levee;—the harsh sound,
The heaving shock that spread that mandate round,
And earth's convulsions at the gathering throng,
Were far too much for nerves at no time strong.
He penn'd a card of elegant excuse,
(For where he liv'd such things are much in use,)
And written too with such exceeding ease
That good King Coal could read no words but these,
"—An accident"—"prevent him"—"stranger"—
"quarry"—
"Contract for building"—"homage"—"queen"—
"quite sorry"—
And in a postscript, fanciful and quaint,
Against one *Coade* he pour'd a sad complaint;
"Baker of stone-work! forgery express!
"He hop'd the King would issue straight redress."

The youngest son to CHALK had chang'd his name,
Some large estates had fee'd him to the same,
That through the southern shores of Albion's Isle,
And eastward turning, ran for many a mile.
Of form consumptive, and of sickly hue,
Dilapidating coughs he often knew.
To writing prone, though not o'er-stock'd with sense;
— A thing with which some writers *can* dispense.
In several counties boasting great connections,
Was sure to be return'd on all elections;
— Poor talents there are no *severe* objections.
But since the ministry no zeal exprest
For the sole merit that poor CHALK possest,
(And those who knew him could with truth aver
He always wrote with a *fair character*,)
He left the house some glib-tongued wight to get,
And took the *Chiltern Hundreds*, when it met.
Stay, gentle muse, one moment only stay,
Ere to the presence-hall again our way
Holds onward, MARL their cousin to pourtray.
A flimsy youth was he, of feeble frame,
And mind accordant, indolently tame.
His care was safely through this life to get;
— 'Twere *dissolution* should he once be wet.
On the light swell of Albion's southern strand,
By radiance warm'd, and mildest breezes fann'd,
His fair possessions CHALK's green confines bound
In emerald chain, to where the white waves sound.

There would the stripling negligently lie,
Drinking the healthful gale that glided by,
Whilst round his couch his friends compassion call'd
For one so young, by sickness thus enthrall'd.
But of those friends two only bore their part
In list'ning to the sorrows of his heart:
Young SAND, as weak a lad as well could be,
(The house of SANDSTONE gave his pedigree,)
In bonds of friendship twin'd by sympathy;
The other, CLAY, no bonds but interest tied,
And if *he* loiter'd by the couch's side,
And if *he* deign'd the merry tale to tell,
He gain'd his point, — and fleec'd the stripling well.
Around that couch, when forth to Vectis Isle
The youth was borne, to meet fair summer's smile,
Around that couch (oh! how are some amus'd!)
Lay heaps of shells all carelessly diffus'd:
— Alternate produce of the land and main,
As each appear'd to claim alternate reign.
The stripling eyed the baubles with delight,
Their pearly wreaths, their arks of purest white.
Thus liv'd weak MARL, thus trifled time away,
Known but to him by each retiring day;
He bath'd not in the bliss that dwells in wisdom's ray.
— Restrain that thought, nor smiles contemptuous wear!
His mind was form'd no brighter lot to bear.

Come, lively muse, our pinions now are free;
Away from this dull realm of pedigree!
To the bright gas-lit dome our course again shall be.
We left old SANDSTONE bowing; now alack!
We must release him. Though old SANDSTONE's back
Were supple, as the very best rattan,
We must have some compassion on the man!
We left Sir Lawrence too on homage bent:
He stood, and forth a grand salute he sent;
SANDSTONE then finish'd *his* long bow, and went.
The lacquey SPAR, in splendid livery drest,
At the fair footstool had announc'd the guest;
Then took his station by a swarthy Gnome,
Waiting to light the great Sir Lawrence home:
And by that Gnome his clear complexion show'd
Just like a glow-worm shining by a toad.
He was a youth in mathematics vers'd,
Cubes, rhomboids, prisms, he constantly rehears'd:
To these quaint forms would each spare moment give,
And was in aspect very *primitive.*
With graceful gesture, like a well-bred man,
And measur'd phrase Sir Lawrence thus began:
(PYRITES view'd him with a placid look,
And a large pinch of snuff the monarch took;)
" Most potent Sire, and you, all-beauteous Queen,
" — Whom to admire is only to have seen, —
" May your warm feelings glow from joy's increase!
" May your fleet moments know but beams of peace!

" My honour'd mother through my tongue commends
" Her best respects to you her best of friends:
" Deplores the fate that calls her from the shore
" Where thus in state she might her homage pour.
" Her health declin'd: — to Mona's isle she drove,
" Where fancy sees the druid's shadowy grove;
" Where bold Caractacus, his country's pride,
" Cæsar and chains — alas! in vain — defied.
" Thence to that shore where Tamar's waters roll,
" Mingling with ocean's wave,—their destin'd goal:
" On which dark wave, reposing from afar,
" Float the deep-mouth'd Leviathans of war;
" Unfurling to the visits of the breeze
" That flag, acknowledg'd sovereign of the seas:
" Where man's high soul the billowy wrath with-
" stands,
" And the proud mass fulfils Canute's commands.
" Still droop'd she fast: the faculty aver,
" In short, that Albion is no place for her.
" So to Europa's southern realms she goes,
" And fair Italia promises repose:
" Italia, whence her sires exalted sprang,
" Where Raphael painted, and where Tasso sang.
" I trust your gracious majesties will see
" The merits of this *brief* apology."
He spake, and bow'd. The King here turn'd his head,
And to PYRITES in low accents said;

" I wish, sweet consort, you could once have seen
" This Lady MARBLE; she hath lovely been.
" *Been*, did I say? She *is*: — as I'm alive,
" You scarce would take her to be thirty-five.
" Astonishing how well her years she bears!
" No muddy skin, no forehead seam'd by cares,
" But a complexion, and an eye of light
" Like a young child's, so beautiful and bright.
" She shines in native loveliness and grace,
" By far the most attractive of her race.
" Ill health may be the plea; her native air
" May tend the nervous system to repair;
" But I should doubt her journey o'er the sea
" Is prompted by the sex's vanity:
" Since she may fancy a more genial ray
" Will render beauty slower in decay.
" That lady is most *highly polish'd* too,
" Each court of Europe hath she travell'd through.
" In this our isle indeed, you scarce can quote
" A family of any style or note
" Where Lady MARBLE cannot freely roam;
" Indeed where she may not feel quite *at home*.
" I wish," the monarch whisper'd in her ear,
" That no intrigue be on the *tapis* here;
" For I have heard of late repeated mention,
" *Canova* pays her very great attention."
Thus did the King reveal his mighty mind;
Then coldly to Sir Lawrence he inclin'd;
— Who saw with half an eye how sat the wind,

So bow'd again, and quickly pass'd along,
Bustling with look important through the throng.
The King had coldly view'd him, — and no wonder!
He always strove to keep that LIMESTONE *under*.
Now stept the younger SANDSTONE, with dull stare,
And what he meant should be a *striking* air.
And on his arm, Miss GYPSUM, bride elect;
— She too was plainly aiming at *effect*.
Whilst to the throne all carelessly they came,
Thus to the King observ'd the smiling dame:
"How like his brother! The same rosy face;
"Only his gait has somewhat more of grace."
"What of the Lady?" the dark King replied:
"Oh! quite a milliner!" PYRITES cried.
They now approach'd and paid obeisance due;
When SANDSTONE many a roguish twinkle threw
Upon the maids of honour standing near,
What poor Miss GYPSUM might have called a *leer*.
(How will our early habits thus arise,
And oft betray us to observant eyes!)
But she was busily engag'd, weak elf!
In thinking of the eyes she drew herself.
And people, when their thoughts are this way turn'd,
The acts of others seldom have discern'd:
The eye and mind together inward go,
— And few can look two ways at once, you know.
But on that day, full sadly it befell,
All tongues declar'd she look'd by no means well:

She was but delicate; unus'd to bear
The rude advances of the sun and air.
They glided slowly from the royal sight:
But where was lovely cousin SELENITE?
— Left loit'ring in the anti-room. — O fie!
— Miss GYPSUM knew full well the reason *why*.
Scarce had this gentle couple left the ground,
Gazing with soothing self-applause around,
Till forth came LIAS, all in armour bound
Of ochrey hue; and clearly *non seipse;*
Most would have reckon'd him indeed *quite* tipsy.
Of this sweet prank, 'twas palpable as day
He ow'd the merit to his friend Jack CLAY.
A helmet high upon his head was rear'd:
Half lizard and half fish its crest appear'd:
His shield a shell, that once the tortoise wore,
On which, emboss'd, an ammonite he bore:
And at his side, like hunting bugle slung,
A shell of Nautilus all lobsely hung;
A spear he held, as one prepar'd for fight,
And headed with a smooth dark belemnite.
And to complete the humours of his style,
Was mounted on a monstrous crocodile.
With caps and bells two varlets stalk'd beside,
In cloaks, striped blue and grey, that floated wide;
And bade such sounds their airy course unfurl,
As, from swoll'n cheeks, and through the outer whorl
Of broken cornua-ammonis sent,
Breath'd no "divine enchanting ravishment."

He trotted round in this uncouth disguise,
Till the King, rousing from his first surprise,
(Whilst the fair Queen, with shudd'ring thrills of fear,
Kept her hands firm upon each jewell'd ear,)
Bade the dark Gnomes, that lin'd the spacious hall,
Drive forth the culprit, — crocodile and all.
Onward they rush'd; resistance was in vain;
His shield they crack'd, his spear they snapp'd in twain,
And from his scaly seat they hurl'd him on the plain.
Away the struggling drunkard then they bore,
Unpack'd him from the rusty mail he wore,
And left him in the anti-room to snore.
Soon he awoke; and ruling reason too
Waking sad shame, — he then look'd very *blue*.
Joy to the strife that wakes no funeral knell!
One dire mischance the muse hath here to tell.
Were it but *one* alas! 'twere passing well!
Of the King's pages few e'er reach'd their homes; 640
—The crocodile had swallow'd half the Gnomes!
CHALK now stept on; and with him danc'd his joy,
That urchin FLINT, a right hard-hearted boy:
CHALK lov'd him well, took much concern about him,
And, when at home was never seen without him. 645
The monarch greeted him like any brother,
Though they were total strangers to each other,
For CHALK, who dwelt in Albion's southern clime,
Had never cross'd King COAL at any time.

Low did he bow, and from the presence went,
On the great prince's friendship all intent;
And, when alighting on a willing ear,
(Of no great moment whether it could *hear*,)
It serv'd him to discourse on for a year.
Alas! how humoursome are invalids!
And to refuse each wish the bosom bleeds;
We strive but to confine each strange request
Within such bounds as may appear the best:
But when wild fancy speaks as in command,
Domestics seldom dare its force withstand.
Marl heard the mandate, as his couch he prest,
It woke the youth from unrefreshing rest:
Instant a page was speeded on his way,
To call the partner of his soul, Jack Clay.
That worthy friend at Sheppey's Isle was found,
His own demesne, that crumbling cliffs surround:
Upon that isle he stood in silent pride,
And the rich treasures of its bosom ey'd.
What darling treasures could that isle unfold,
That Clay should with such rapturous eye behold?
Attend, I pray; — the story shall be told.
This is an age in wonders quite prolific;
Ladies must now be very scientific:
Then could a queen, and young, and beauteous too,
Disdain these stilish studies to pursue?
I thought as much, — you quickly answer "No:"
And well you answer, — for the fact was so.

PYRITES then in shells had started quite
A *connoiseuse* (I think that term is right);
Went down the *genera*, and back again,
As readily as children count to ten:
Told *Murices* from *Strombi* vastly well,
Which, by the by, is more than some can tell,
Who talk most fluently upon a shell.
So, credit in *Conchology* to get,
She thought of forming a choice cabinet:
Pronounc'd at once her solemn *ipsa dixit*,
And bade Jack CLAY in Sheppey Island fix it.
Nay, as the sex are often in extremes,
She form'd another cabinet it seems
At Hordwell Cliff, on Hampshire's verdant knoll;
And made him, too, *curator* of the whole,
Without consulting her good spouse King COAL.
A bad example! — but perhaps as well;
For he, dull soul, knew nothing of a shell.
She bade Jack CLAY too promptly correspond
With *savans*, both in Britain and beyond:
Parading terms, right technical, to pass
For any thing but what he was, — an ass.
Around, like grape-shot, CLAY's epistles flew,
An F. R. S. and F. L. S. he grew,
M. G. and W. S. (so caballistick!) too.
They handed round each consequential letter,
And vow'd no man in Europe could write better.

For theory, CLAY heeded not a button
Which triumph'd, the Wernerians or Hutton;
Whether or not the central heat could act
To render the loose strata more compact;
Whether the draining fluid choak'd each cleft
That in the coating of the globe was left;
Whether the veins decreasing, downward go,
Or narrowing rise, protruded from below;
Whether trap-rocks are stratified or not;
Were points for which he never car'd one jot.
But he would talk, till every guest would stare,
And end by saying — that the shells were there.
All that *he* priz'd, was being *conservator*
Of his own interest, and the Queen's *curator*.
But since research will ever facts produce,
And facts in better hands will find their use,
CLAY drew from France and fair Italia's shore
Comparison, that fruits of knowledge bore.
Seine's chalky vale where bright Lutetia stands,
And fertile Lombardy's lake-spotted lands,
And the warm Apennines that southward bent,
Vaunted such shells as he from Hordwell sent.
But could PYRITES, of aspiring soul,
To shells alone her ardent views controul?
No: — *Botany* her thoughts alternate claim'd,
And Sheppey's Isle again was justly fam'd:
There did the plants reward her guardian care
With fruit and seeds that other climates bear.

Much in exotics the Queen's passion lay,
But whence, and how they came, none ever knew but CLAY.
Earth's widest realms have been explor'd in vain,
No prototypes of most on earth remain.
These were her chief delight; on these would rest
The sunny glance that fir'd each human breast;
Nor did her thoughts on deathly kindness dwell,
As o'er each flower her sweeter breathings fell:
Nor did she deem that faintness and decay
Might seize the stem on which her fair hand lay.
Alas! *their* tender frames reveal'd that pow'r;
—What blesses man is poison to a flow'r!
Yet to CLAY's care she still their relics gave,
And Sheppey's Isle became their sea-girt grave;
And o'er those relics oft her tears will flow
In bright astringent drops upon the beach below.
Upon that isle, I said, CLAY ling'ring stood,
And westward gaz'd along the ripling flood;
Shot forth his glance, in conscious pride elate,
Smil'd on the scene, and blest his prosperous fate.
And well he might; for on his circling plain
The mighty Thames embrac'd the billowy main:
Majestic stream! the sun, that on thy tide
Spreads its pure blaze of molten silver wide,
Sees from all climes, from every fertile shore
Earth's tributary treasures largely pour.
And well might he gaze on with swelling heart,
For in his confines shone the world's great mart;

Where wealth and luxury such means employ,
As render life one sparkling scene of joy:
Where art and science, gloriously combin'd,
Call forth the latent energies of mind:
Where stands sublime the proudest work of men,
The fabric that immortaliz'd a *Wren*.
The page approach'd; his cap and feather doff'd;
And his Lord's message gave, in accents soft;
Then back with all convenient speed he went:
But CLAY just then was not on friendship bent.
He guess'd the cause of summons, and his pride
Bade him avoid the sickly stripling's side.
He would not shine amid the courtly throng,
Guiding a helpless invalid along;
So sought delay:—and o'er the goblet's brim
Fuddled Squire LIAS in the interim;
And sent him in that pleasant state, I ween,
To vex the King, and terrify the Queen.
Then went himself, in but half-tipsy plight,
And found poor MARL half dead with pain and fright.
His patience held not, (thus the case was found,)
He bade his servants bear him through the ground.
They, simple souls, had ne'er been far from home,
Unus'd through strata skilfully to roam;
Unvers'd each cleft and cranny to explore,
For where they dwelt none ever heard of *Ore*;
Against a column, Viscount SIENITE
Had built to mark the limits of his right,

Whose summit at Mount Sorrel meets the day,
Ran the light couch where MARL impatient lay,
And cast him forth upon the solid way.
They rais'd him; bruises only were his lot:
So turn'd their steps, and safely home they got;
Where lay the youth, and breath'd in whining tone
Reproaches that were due to his rash will alone.
Yet was it well; for had the bearers on
Through earth's thin laminæ with caution gone;
Had MARL once reached that scene of bright parade,
No more with shells at Vectis had he play'd.
In dingy dust, the whirling gales of morn
Had round the regal dome his relics borne.
In life's stern trials sweet content to breed,
Calls for the *Optimism* that marks *Candide;*
With what its scoffing author never knew,
— High confidence in Him whose help alone is *true.*
Wrapp'd in hypocrisy's impervious cloak;
With well-feigned gravity CLAY comfort spoke,
Whilst his heart chuckled o'er the timely joke.
Again we turn from our discursive track,
And softly summon wayward fancy back.
Again we seek the splendours of the throne,
Where care sits lurking, yet where smiles are shown,
And gloom of heart oft speaks in mirthful tone.
Again we view the illuminated hall,
Where star-like eyes the tender hearts enthrall,
And swarthy Gnomes half line the sparkling wall.

But few now stood where many stood of yore:
Woe to the crocodile that Lias bore!
Such dismal day of death the Gnomes ne'er knew before.
Now was King Coal, with condescending ease,
Disseminating regal pleasantries,
Whilst courtiers grinn'd at every word he said,
When to his ear a sweet oration sped.
In quick astonishment the monarch stopp'd,
And left a brilliant apophthegm half dropp'd.
Before the footstool stood reveal'd — Jack Clay;
In hyperbolics hail'd that blissful day;
Compar'd the King to *Sol;* and, "by that light!
"The Queen was *Luna*, so serene and bright;
"The maids of honour" — but confus'd he grew,
He hem'd, he cough'd, — alas! it would not do!
The thread was lost, he lamely hobbled through.
All that they heard was something about "stars,"
"The Queen" and "*Venus*," and "the King" and
"*Mars*."
Whatever praise might to his speech belong,
One fault it bore, — the flattery was too strong.
The King now anxious closely to behold
The man from whom such sugar'd phrases roll'd,
Drew forth his spectacles, of gold enchas'd,
Which on his royal nose he calmly plac'd,
Then forward leant: — Behold, a glorious treat!
Before him stood a *Dandy*, most complete!

The wiggy scull, the neck in armour cas'd,
The padded bosom, and the wasp-like waist.
Darkly he frown'd, and bore his head aloft;
But recollected soon, — Jack CLAY was *soft*.
He in the Monarch's glance no favour spied,
So made his bow, and join'd the courtly tide.
Soon to the anti-room his way he found,
Offering *Septaria* comfits all around;
(Although one *Parker*, of *adhesive* fame,
Had robb'd him of great numbers of the same);
And prattling to the gentle SELENITE,
Who, by the way, was not a stranger quite;
Since CLAY, though muddled, some remembrance bore
That he had met that lovely one before.
But vain his efforts, when with crowds he mix'd,
All knew he was *tenacious*, where he fix'd.
Baron BASALT, though late, strode boldly in,
With Lady GREENSTONE, and young Master WHIN;
Attended by their foot-page ZEOLITE,
In a tight dress of peach-blossom and white:
— 'Twas Lady GREENSTONE's fancy, to array
The pale-fac'd chit in this fantastic way.
Slight was his homage, and his Lady's too,
— Who from the Baron always took her cue.
Then did his eye glance round with action keen,
— Alas! no crowded columns grac'd the scene.

Anon he whispered in his Lady's ear,
" Fairhead and Staffa not like this appear!
" Palace, forsooth! — a pig-stye should it be:
" Scarce fit for that: — No; Fingal's Cave for me!"
Then sneer'd, and show'd no tokens of respect:
Indeed, no wonder, — when we recollect
He was *consummate* as an architect!
The monarch's frown return'd; he long had known
That haughty Baron's disrespectful tone.
Of restless spirit; a rebellious man;
Had oft derang'd each best-concerted plan;
Thwarted his views; his courts in bitter fray
Trod unaton'd, and urg'd the *troubled* way:
Prompt to oppose, to barricade, to sap;
— In short, the family was all a *trap*.
A motley group the anti-room now pac'd,
From which no one the royal presence fac'd.
Stout Mr. HORNSTONE foremost; said to be
Dependent on the LIMESTONE family.
He, and his foster-brother CHERT, were known,
To boast of hearts as *hard* as any stone.
And JASPER too, the elder SANDSTONE's son;
Clad like a harlequin, — as fond of fun:
His cousin AGATE; bright, — but plainly drest;
Wont to declare, his outside was a jest:
In botany was never at a loss;
And had, lock'd up, fine specimens of *moss*.

Felspar, a wight of *parts*; — such use about him,
Duke Granite never could appear without him!
Yet of a warm and irritable frame,
One turn would sometimes put him in a *flame*.
Fair Steatite, a dame of high degree,
Earl Serpentine's decided *chere amie*.
Tufa, of grasping spirit, uncontroul'd,
Around his *petrifying* glances roll'd.
Asbestus grey; and Talc, of greasy scull;
Clinkstone, who humm'd monotonously dull.
With Roger Hornblende *soi-disant* Esquire;
And Tommy Toadstone, born in Derbyshire.
Swinestone *was* there, — but did not tarry long,
The ladies said he smelt so *very strong*.
These timid souls were aw'd, and all aback:
Hornblende peep'd in, — but said the King look'd *black*:
On which Asbestus begg'd they might retire,
— Though reckon'd brave, and boasted — *to stand fire*.
But from that group stept forward shiv'ring Shale,
And grac'd his bow with compliments quite stale:
— Such as, mid hoops and ruffs, by every beau
Were drawl'd around, two centuries ago.
"Where has he liv'd?" Pyrites cried; — "*Unique!*
"Oh! quite a gem! — decidedly *antique!*"
"An old acquaintance;" straight the King replied,
And bade old Shale stand snugly by his side.
"Do, Sire," she said, — "since you've the creature own'd, —
"Impart a little of the true *beau monde*."

Sorrowing the muse now ventures to prolong,
As truth directs the progress of her song.
Who joys not o'er a nation nobly free?
Who mourns not o'er insulted majesty?
Oh! bitter be *his* doom, — if any such there be!
But let fair freedom at due distance tread
From the bright source whence regal virtues spread;
Be this the cry, as waves her guardian wing,
" What Heaven anointed is a sacred thing!"
Sorrowing the muse then hastens to detail
Scenes where such goodly creed was deem'd of no avail.
Plebeian PEBBLES, by odd BRECCIA cheer'd,
Sans loyalty, *sans* reverence appear'd.
Jostled, and rush'd, with frantic gabblings, on;
When the King roar'd, " Gnomes, bid those brutes begone!
" Haste, drive them forth! — What? will ye stand like stone,
" And see your monarch bearded on his throne?"
On rush'd the Gnomes, — on rush'd the courtiers all, —
And dire confusion fill'd the spacious hall.
As wave meets wave within some rocky bay,
When varying currents hold their whiten'd way;
When the shrill sea-mew with unwearied cries,
Skimming the sea with restless pinion, flies;
When deep'ning clouds foretell the wintry gale,
And the gaunt mariner clews up the sail;

So, in dire clash before the monarch's seat,
Gnomes, courtiers, trumpeters, plebeians meet.
Shrill shriek'd the Queen, the maids of honour too.
As shrilly shriek'd — for what less could they do?
And half thrown backward, dark as gathering night,
The King sat scowling on the doubtful fight!
The PEBBLES broke, — gave ground, — and turn'd in instant flight.
The Gnomes now chas'd, with loud victorious shout,
Through the high palace gates, the rabble rout:
Whilst back the courtiers march'd, now sooth'd and tame,
And rubb'd a few sore noddles as they came;
— But what are broken heads, if girt by crowns of fame?
Then thus the monarch to PYRITES said,
" Cheer up, my love; — the foe, behold! hath fled.
" This that thou saw'st will ever be the fate
" Of him who holds the rudder of a state:
" Still will the rabble in contention rise,
" Still will be heard sedition's stormy cries.
" But if *they only* the dread standard rear,
" Whilst loyal bosoms round the throne appear,
" Who sits thereon need feel no throb of fear.
" Curb them with temper: — they but fret their hour,'
" If unsupported by the arm of pow'r,"
— Said the King this? or did the Muse consign
Her sage opinions to the flowing line?

Howe'er it were, 'tis no great matter now:
If 'twere the King, by Solomon! I vow
He ought to govern, — for he well knows how.
Though I suspect it came not from the King;
— His head by no means promis'd such a thing.
But whilst PYRITES to his speech inclin'd,
And calmer thoughts awoke in every mind,
Back came the Gnomes, with fearful glance behind.
The dire contagion crept throughout the hall;
A silent trembling wonder came o'er all:
Full on the anti-room each eye was turn'd,
In whose stretch'd orb a wild impatience burn'd.
Tongue found not utterance till the novel sight,
That roll'd into that atmosphere of light,
Palsied each nerve, and froze each heart with fright.
A monstrous sledge upon their vision burst,
Form'd of a mammoth's skeleton revers'd.
An elephant's bright tusks adorn'd its head;
Behind an elk's wide antlers backward spread.
It came, — as hippopotamus, huge, slow,
Rhinoceros, and heavy buffalo,
Yok'd in alternate pairs, — a fearful drove, —
With dull and measur'd trampling onward strove.
Within that sledge to brooding thoughts a prey,
Half stretch'd at length, the Giant GRAVEL lay.
A high tiara on his head he wore,
With polish'd stones all thickly studded o'er:
And on his shoulders broad a patch-work cloak he bore.

On came the frightful sledge, with grating sound,
Till place of rest before the throne it found.
The Giant rose; — a general tremor ran; —
And thus, like distant thunder, he began:
" Why are my subjects from thy presence driven?
" Why to my pow'r is thus defiance given?
" *They* shall remain when *thou* no longer art;
" When deadly fires consume thy coal-black heart.
" Prophetic vision views the fated day,
" When mortals give thy glories to decay;
" When in these walls, now bright, and peopled well,
" Cold damps alone, and noxious vapours dwell.
" Prophetic vision sees a *Davy* aid
" Earth's daring sons thy kingdom to invade.
" His be the toil; fair science points the prize;
" Fame plants it on his brow, and tells it to the skies.
" But why waste words upon a thing of stone?
" Behold my pow'r! — compare it with thy own."
Off then his cloak, with gesture proud, he threw;
Around its gatherings, like a whirlwind, flew,
And, as they reach'd the dome's remotest edge,
Down sat the Giant; and on mov'd the sledge.
But the elk's antlers caught that flying cloak,
As o'er the palace its wide drapery broke;
And as the sledge upon the rugged ground
Mov'd slowly on, with deep and jarring sound,
Toss'd the torn fragments fancifully down,
The loose-built theories of man to crown.

Now fear, that like an incubus had prest,
And check'd the vital current in each breast,
Roll'd slowly off: and, as with one consent,
A deep-drawn sigh from every bosom went:
The King gaz'd round, PYRITES rubb'd her eyes,
Gnomes, courtiers, all awoke in wild surprise.
Long sat the monarch thoughtful, for deep shame
Had fix'd its talons on his mental frame.
—Before his queen, before his subjects all,
That fear should so his faculties enthrall!—
And as weak minds in strong extremes agree,
He soon determin'd what his part should be:
Some kindling storm should on the minions lour,
And re-establish his degraded pow'r.
He then bethought him,—that of homage shown
That day before the splendours of his throne,—
No METAL yet had sooth'd his regal pride;
And thus in stern and hurried voice he cried,
"In vain our mandate rode through earth and air,
"Few are the drones that to our court repair:
"Where is the tribe of METALS?—On this day
"Why seek they not our halls in bright array?"
No answer rose; all gaz'd upon the ground;
Then cast in dread suspense their humble looks around.
"Advance, Sir Lawrence," roar'd the dark-brow'd prince,
"Explain this act,—their loyalty evince.

" To Marquis SLATE and you their deeds they show;
" You know their habits, their opinions know;
" Why have they treated our high summons so?"
" Dread sovereign," said the Knight, in mildest mood,
" I heard the METALS wish'd not to intrude:
" Nay, it *was* said—by Scandal's tongue, 'tis clear,—
" That they refus'd to own allegiance *here*."
He said, and bow'd:—but pen would feebly try
To paint the wrath that fir'd the monarch's eye.
'Twas acted well;—*Kean* scarcely could instil
More soul into these dictates of his will;
" Now by the gloom of Pluto's deepest cell,
" Where snakes and hell-born reptiles ever dwell;
" By the red glow of earth's internal fire,
" The whole metallic tribe shall in my wrath expire!
" My queen's relations?—Perish the low thought!
" Are such the souls with kindred feelings fraught?
" METALS and SEMI-METALS, *pure* and *base*,
" Here I denounce your vile presumptuous race.
" Earth shall behold each sulphury column roll
" Its dark and poisonous skirts from pole to pole,
" Speaking the deadly dictates of my soul.
" The universe shall witness how I treat them:
" I'll *melt* the dogs, wherever I shall meet them!"
He ceas'd, and wav'd the sceptre of command:
Volcanic tremblings shook the dusky land.
The subjects stood, a second prey to fear;
Their monarch's voice still ringing through each ear.

Again his potent arm he rais'd on high;
Lo! darkness reign'd — impervious to the eye:
— The gas-lights vanish'd, magically smart;
Pall-Mall could show no finer touch of art.
Confusion dire the motley crowd assail'd,
A second chaos through their ranks prevail'd.
All turn'd, all fled;—one feeling touch'd the throng:
But happiest they, of texture tried and strong,
For, in that strife to gain the high-arch'd door,
Some left their fragments on the sooty floor:
And many were the dints, and cuffs, and blows,
Like rude collision of the deadliest foes.
When matters first assum'd this sad complexion,
STEATITE sought Earl SERPENTINE's *protection*;
He strove to guard her, but was over-match'd,
And in the service got most sorely *scratch'd*.
But when confusion spread so widely round,
E'en firm Sir Lawrence could not hold his ground.
GRAUWACKÉ lost his pipe, and one *Moustache*,
Torn from his face with an unsightly gash:
The Marquis bore the blame; his legal foe;
— But he could never such vile malice show!
Old SANDSTONE, somewhat crush'd, got forth, and ran:
GNEISS had his knee-pan *split*, unlucky man!
HORNSTONE and CHERT work'd very safely through:
— I said before that they no *feeling* knew.

JASPER had many a hole in his gay vest;
He relish'd fun, — but this he found *no jest*,
Though he was one could struggle with the best.
LIAS, now sober, went but badly on;
He needed *help*,—his crocodile was gone!
FLINT grated grievously his parent CHALK;
For no compunction could that urchin balk.
The baron bustled, looking mighty grave;
Boldly he strove young Master WHIN to save;
And wish'd himself again in *Fingal's Cave*.
HORNBLENDE look'd *pale*, for he was sorely *bruis'd*;
Stout Lady GREENSTONE too was *much confus'd*.
The fair Miss GYPSUM sank, quite *crack'd* with fright;
Nor was her lover in much better plight;
And sadly damag'd was sweet SELENITE.
SPAR scrambled through, but as the torrent rush'd,
The youth was almost to a *rhomboid* crush'd:
The more surprising, — since great fame was his
For thrusting closely into crevices.
In spite of TUFA's *petrifying* frown,
He was by Tommy TOADSTONE trampled down.
TALC was *much cut*; and CLINKSTONE *roar'd* amain;
And SHALE oppos'd his *hardier* friends in vain.
Sad quarrels rose, too, in the struggling throng,
As through the anti-room they drove along.
ASBESTUS *burnt* to make FELSPAR atone
For some *reflections* which that wight had thrown:

Till Viscount SIENITE, who elbow'd there,
Into harmonious contact squeez'd the pair,
Duke GRANITE, when the tumult rose, 'tis said,
With Countess PORPHYRY to a closet fled,
And lay quite snug: which caus'd much mirthful chat:
—You see we never are two old for that!
But vainly might the Muse her powers essay
To tell the dire condition of Jack CLAY:
—Stuck to the skirts of all — oh! thus *he* reach'd
the day!

NOTES.

Verse

13. Iron Pyrites, Sulphuret of Iron, or Marcasite, is almost constantly found in Coal, either disseminated in minute grains, or in small nodules, or in thin veins, accompanied by Quartz, or calcareous Spar. It may be known by its weight, its shining metallic lustre, and a strong smell of sulphur when broken.

33 Mica, or Muscovy Glass, (so called from being a common substitute for window Glass in the Russian empire,) is one of the most abundant mineral substances. Its texture is lamellar, and it occurs in Granite, and the other primitive rocks. It is easily split into thin elastic plates, and, when colourless, is used in enclosing objects for the solar Microscope. It is found also, but more minutely divided, between the natural fissures of slaty Sandstone; and in some of the finest sort. appears even interspersed through the whole mass.

☞ N. B. That the order of the rock-formations and

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the superposition of the strata might not be broken, many short notes, which in their proper places would have interfered with such an arrangement, have been transferred to the larger heads, with which they were most immediately connected. It is therefore recommended to the reader to make himself master of the notes comprising such order, before he proceeds in the text: and, bearing these in memory, it is expected that he will find all the allusions in the text properly elucidated.

79. Granite is the undermost, (that we are acquainted with,) and therefore supposed to be the oldest of the *primitive* rocks. It is not stratified and is a *compound* rock, being an aggregate of Quartz, Felspar, and Mica, in variable proportions. It appears, rising through the stratification of this country, chiefly in Devonshire and Cornwall; but is also seen at Mount Sorrel, near Leicester; at the Malvern hills in Worcestershire; and at Shap, Ravenglass, and the back of Skiddaw, in Cumberland. Some Geologists (following the opinion of Dr. Hutton) conceive Granite to be of igneous origin, and to have been protruded from beneath, raising and occasionally disuniting the superincumbent strata.

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Quartz, which is above mentioned as a constituent of Granite, in a granular state, composes Sandstone. In a crystallised form it is found on Snowdon, in Wales; and accompanies most metallic veins. Its crystals resemble pure Glass, and are known by the name of *Rock Crystals*, *Mock Diamonds*, *Cornish* and *Welsh Diamonds*. Compact Quartz is largely disseminated through most rocks in veins and beds; and is so met with on Skiddaw, in Cumberland. The rounded milk-white Pebbles, found on the sea-shore, and in gravel, are of Quartz.

Felspar, the other constituent of Granite, will be hereafter mentioned.

85. Gneiss is composed of precisely the same materials as Granite, but is slaty in its structure, owing to the comparatively large quantity of Mica it contains. And from this slaty structure perhaps it arises that the Felspar is very liable to decomposition. It is of very rare occurrence in England, but abounds in the primitive mountains of Scotland and Ireland.

103. Clay Slate. The appearance of Slate is familiar to us under the form of common roofing and

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schoolboy's Slates; but no accurate line has been drawn by which Clay Slate can be distinguished from the finer varieties of Grauwacké Slate; nor is it agreed whether Clay Slate contains organic remains or not, or is to be considered *primitive* or *secondary*.

The Slate of the mining districts of Cornwall (provincially termed *Killas*,) which contains veins of Tin, is perhaps the only indisputable Clay Slate in England. It is doubtful whether much of the Cornish Slate also, without the Tin district, as well as great part of the Slate of Cumberland and N. Wales, ought not rather to be considered as Grauwacké Slate.

Clay Slate and Grauwacké Slate are both regularly laminated, and extremely fissile in the direction of the cleavage, but their stratification is often indistinctly marked.

The Tin mines of Cornwall are confined to the Clay Slate and Granitic districts: but the Cornish Copper-mines are common to these, with rocks of the Grauwacké series.—The Copper mines of N. Wales are chiefly in Grauwacké Slate.

In Cumberland Clay Slate occurs on the summit of the Skiddaw and Saddleback mountains.

The roofing Slates of N. Wales, Westmoreland, and Ingleton in Yorkshire, which are all probably a fine variety of Grauwacké Slate, contain cubic crystals of Iron Pyrites, or Marcasite singularly imbedded. At Ingleton the Pyrites is often beautifully disposed in the form of Dendrites between the laminæ of the Slate. Rocks of Clay Slate and of the Grauwacké formation are often found exceedingly contorted from the effects of convulsions acting on them at a very early period: the nature and cause of which has formed the subject of much controversy, and is still little understood. See an interesting paper on this subject, with an engraving of contorted strata, in Scotland, near St. Abb's Head, by Sir James Hall, in the Transactions of the Royal Society of Edinburgh.

Porphyry is a *compound* rock, consisting of crystals of Felspar, and sometimes Quartz, imbedded in a base, formed either of compact Felspar, or of various kinds of Clay or Silex. It is not plentiful in England. In Cornwall large dykes of it occur, cutting Slate and Granite.

VERSE

It is found also in Cumberland and N. Wales. The *Plumbago* or Black lead, at Borrodale, in Cumberland, is in masses, imbedded in a sort of imperfect slaty Porphyry, adjoining to Slate rocks. See verse 211., (The best account of the Black Lead Mine above mentioned will be met with in "Parkes's Chemical Essays.")

Porphyry abounds in Scotland; forming the summit of Ben Nevis, and traversing the Granite and Slate rocks in many parts of the chain of the Grampian Hills. The Egyptian Porphyries are mostly red. Those of Sweden are extremely hard and fine. Porphyritic hills may be often distinguished by their rounded formation and dilapidated state; the sides and base being covered by *debris* from the summit.

150. Serpentine is by no means a common rock in England. Its chief seat is in Cornwall; where it forms a considerable part of the Lizard Point. In the Isle of Anglesea it is found in great beauty, at the Mona marble quarries. It is rare in Cumberland. In Scotland it is more common; and in Ireland noble Serpentine occurs near Westport, in the mountain of Croagh Patrick.

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159. Sienite is a *compound* rock, essentially composed of Felspar and Hornblende; and sometimes containing Quartz and Mica. It is perhaps the most abundant of the unstratified rocks in England; constituting great part of the Malvern Hills, of the Caer Caradoc chain, and of Mount Sorrel, and the Cheviot Hills; and occupying a large portion of the mountains of Cumberland and Westmoreland, near the Lakes. It is less frequent than Granite in the *primitive* mountains of Scotland and Ireland.

176. Grauwacké is the next rock to Clay Slate that is of much importance. Of all rocks none has had its history so much disputed and so little understood, as Grauwacké. It was named by the Saxon Geologist Werner, and by him considered a *transition* rock. It is of a granular structure, supposed to consist of minute fragments of older rocks, interspersed through a basis of Clay Slate; and it alternates with beds of Grauwacké Slate. Both these occasionally contain organic remains; and also subordinate beds of Limestone, with organic remains; many of which resemble in genus those of the Mountain Lime.

The upper strata of the Grauwacké series gra-

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duate insensibly into old red Sandstone; as the lower slaty beds do into Clay Slate.

Grauwacké is of great extent in this country. The north of Devonshire, and N. Western Hills of Somersetshire, are composed chiefly of Grauwacké Slate; so is also great part of Wales, and the mountains of Cumberland.

223. Old red Sandstone is a formation that occupies an important place in the English series, between the Grauwacké and Mountain Lime; attaining on the Beacons of Brecknock the enormous thickness of 2000 feet. It contains strata of red micaceous slaty Sandstone, and of Quartz, Jasper, and other Pebbles, alternating with beds of red Marl, and red Clay, coloured by oxide of Iron. These beds often so closely resemble in colour and substance the strata which compose the new red Sandstone formation that mistakes of one for the other are perpetually taking place. The *old* red Sandstone beds are usually *highly inclined*, like the Grauwacké; those of the *new* are almost always *horizontal*.

Old red Sandstone is extremely unprolific in minerals; containing rarely any shells, and no

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traces of Gypsum Rock Salt, and Sulphate of Strontian, which three last substances occur abundantly in the new red Sandstone formation. It has seldom any valuable deposits of metallic Ore in it.

It occupies an extensive area in the counties of Pembroke, Glamorgan, Monmouth, and Hereford. The red Sandstone and conglomerate beds of the Vale of Exeter, Taunton Dean, and Carlisle; and of the extensive Plains of Cheshire, Salop, and Lancashire, which are by so many writers consigned to the *old* red Sandstone, are component members of the *new*. Between the old and new red Sandstone series is interposed an enormous mass of strata, constituting the Mountain Lime and great Coal formation. The Coal of England occurs, above the Mountain Lime, in strata of solid Coal often many feet thick, alternating with strata of slaty Clay (called Shale), of Iron Stone, and Sandstone; and occupies immense tracts of country in Northumberland, Durham, Yorkshire, Derbyshire, Staffordshire, and S. Wales.

264. Reposing horizontally on the bassot edges of the above-mentioned Coal strata (which are usually

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inclined), we find the new red Sandstone, or new red rock Marl formation.

Of this series the lowest member is the Magnesian Limestone, which will be described under the Limestone family.

The middle region is usually occupied by beds of Conglomerate and of loose red Sandstone, and Sand; alternating with and covered by a vast thickness of red rock Marl. It is in this formation only that Salt Springs and Rock Salt have hitherto been discovered; viz. in the counties of Worcester, Stafford, Salop, and Chester.

Gypsum occurs in it abundantly in the form of Alabaster, fibrous Gypsum, and Selenite. It furnishes the only Alabaster quarries that exist in England. At Keddleston House, near Derby, are lofty pillars, extremely beautiful, the shafts of which are of Alabaster from the neighbourhood.

Many sandy strata become consolidated by a calcareous cement, and in this state of union form useful and hard building stone. See verse 292.

VERSE

298. The Limestone of England may be conveniently divided into *seven* distinct kinds.

1. Primitive Limestone, or Statuary Marble; which is of extremely rare occurrence in England, and is only found in small quantity, in Devonshire and Anglesea. It abounds in Italy, Switzerland, and Greece; whence it is obtained for the purposes of sculpture. This formation is alluded to in the text under the personification of Lady Marble, mother to Sir Lawrence Limestone. See verse 516.

2. Transition Limestone; which has been mentioned in the note on Grauwacké, and in many of its characters is nearly allied to Mountain Lime. On this account, and as being a less important formation, it has no distinct representative in the Poem.

3. Mountain Limestone; which lies next in succession above the old red Sandstone, and abounds in Derbyshire, Somerset, S. Wales, Yorkshire, and Northumberland. The Sir Lawrence Limestone of the Poem is intended as the representative of this formation. Its veins are often charged with valuable stores of Lead. The rock itself

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often abounds with extensive caverns; as at Castleton, and at the Peak, in Derbyshire: and contains an immense assemblage of organic remains, such as marine shells, corals, and other zoophytes.* Similar remains of different species are found in all the other succeeding Limestone

* Perhaps the most remarkable of the zoophytic remains in the Mountain and other Limestones is the *Encrinus*, so called from the resemblance of some of its species to a lily. It unites to the external form of a flower the mechanism of a numerous series of articulated bones; the whole forming a kind of skeleton, which from the surprising number and delicate finish of its parts, surpasses perhaps any thing that can be found in those animals which are usually regarded as belonging to a more perfect and higher class. It appears to have consisted of a root, by which it was attached to the bottom of the sea; and from whence arose a stem many yards long, not constructed (like that of a flower) of one single piece, but composed of many hundred joints, articulating into each other by a beautiful apparatus of grooves and notches; and thus allowing a degree of play which compensates for want of locomotion. Detached joints of this stem form the *Entrochi* and *Asteriæ* so frequent in all Mountain Lime rocks. At the superior extremity of the stem are a series of bones, which, to pursue the analogy, may be considered as representing the calix of a flower; and these again support other series of bones, which form, as it were, the petals. From the interior surface of these petals, arise numerous finer filaments composed also of lesser bones, and bearing a sort of analogy to the stamina of flowers. When the zoophite was quiescent, the whole of the petals and calix appear to have been closed over the filaments; in which state one of the species exactly resembles a closed lily, whence the name of *Encrinus* or *Animal Lily* has been given to it, and from it transferred to the whole genus. When roused to action it appears to have opened its petals, and spread

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strata; but Lead and Copper are worked in no strata more recent than the Mountain Lime; with the partial exception of a little Lead in the Magnesian Limestone.

It is often very compact, admits of a high polish, and is manufactured for ornamental purposes; particularly in Derbyshire. That which is very dark, called there *black Marble*, and quarried at Bakewell, receives its colour from Bitumen. Lead and other Ores are found in Mountain Limestone in the last named county; and it also furnishes the Lead veins of Cumberland and Durham.

The medicinal waters of Harrowgate, Matlock, and Bristol, are connected with the Mountain Limestone; as those of Bath and Cheltenham are with the Lias, which will be hereafter described.

From Mr. Westgarth Forster's excellent "Section of the Strata" it appears, that in the great

abroad its filaments for the purpose of catching its prey. The stomach of the zoophyte was placed in the centre of the disk of what may be considered as its flower.

VERSE

Coal Field of Northumberland and Durham, the strata of Mountain Limestone are invariably *under* all the *valuable* seams of Coal; rising from beneath them to the north-west, and appearing in succession with other alternating strata on the borders of Cumberland: and this seems also to be the case at Whitehaven, where the Limestone rises in like manner from beneath the Coal, but in an opposite direction: and in South Wales, where the Limestone forms a kind of basin; within which, and conforming to its shape, the Coal seams are situated.

4. Magnesian Limestone, so called from its containing a portion of Magnesia; is of much younger formation than the preceding, and in some degree derivative from it. It is found in the north-eastern part of England, extending from near Nottingham, by Wetherby, to Sunderland; and reposing immediately on the Coal measures. In Gloucestershire, Somerset, and Glamorganshire, it contains imbedded in it pebbles and fragments of Mountain Lime, and other older rocks; still retaining the same relative position above the Coal. It is also mixed with a considerable proportion of new red Sandstone, making the lowest member of that formation,

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and often passing by insensible gradations into it, and into red rock Marl. The quick Lime obtained from it is of a hotter and more acrid quality than from other Limestones: this is supposed to arise from its constituent Magnesia; it is considered therefore more peculiarly adapted to the cultivation of moor lands, from being more active in producing vegetable decomposition. See verse 361. Magnesia sometimes occurs also in beds of the Mountain Lime; which may be recognised by a peculiar glimmering lustre.

5. Lias, or argillaceous Limestone; which is more recent than the preceding, and is abundantly diffused through this country.

It may be described as running across the centre of England, in a direction nearly north-east, from Lyme in Dorsetshire to Whitby in Yorkshire. It usually forms an argillaceous soil, from the quantity of Clay that predominates in it; and it contains subordinate beds of Marl. Lias is a marly Limestone, usually blue (darkish lead colour), or white (bluish grey). The white beds generally are the lowest; and both white and blue are disposed in thin slabs, alternating

bar with bands of Marl and Clay, and occasionally abounding in Iron Pyrites.

Clay is by far the most abundant ingredient in the Lias formation.

White Lias has lately been made use of in the Arts as the material for stone-engraving; which was first cultivated in Bavaria, at Munich, where it has since been brought to great perfection, as well as in France. The Flora Monacensis, by Schrank and Mayrhoffer, Spix's Craniology, many portraits, maps, &c. have been executed in Lithography, with a degree of beauty that approaches to line-engraving. For military purposes it is very useful in multiplying rapidly plans, circular letters, and orders. It has not yet made much progress in England, but is said to be applied in the preparation of forged bank notes. The neighbourhood of Bath and Bristol furnishes white Lias fit for Lithography, but the best comes from Bavaria.

It is in beds of Lias, and Lias Clay, that we find an immense deposit of organic remains, differing essentially from those of the Mountain Lime; such as *Ammonites*, *Nautilites*, and *Belemnites*,

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which occur in numbers truly astonishing; and with them the remains of tortoises, crocodiles, and a singular reptile of enormous bulk, forming a kind of link between the Dolphin and the Lizard tribe, which has been denominated *Ichthyosaurus*, and is described in the London Philosophical Transactions for 1814 and 1816, by Sir Everard Home. See verse 373. and 607.

6. Oolite. Interposed between the Lias and Chalk of England is an extensive series of shelly coarse Limestones, all of which occasionally present an admixture of spherical particles resembling the roe of fishes; from which circumstance the name of *Oolite* has been applied to them. One of the lowest beds of this series forms the best building stone in England; and is extensively employed at Bath, and at Ketton in Northamptonshire. When first taken from the quarry it is extremely soft.

Organic remains abound throughout all the beds composing this extensive formation, which stretches north-east from Bridport in Dorsetshire, through the midland counties, to the Cleveland Hills in Yorkshire.

VERSE

Coade's Manufactory of patent Stone in London, is an imitation of the Bath and Portland Stone for ornamental purposes. See verse 409.

7. Chalk. This name has been applied to a series of beds of snow-white Limestone, attaining a thickness of many hundred feet; varying from the state of Cooper's Chalk to that of a soft building stone; and divided only by irregular and imperfect strata of black Gun Flints, usually disposed in nodules, and occasionally in thin laminæ.

The Chalk district forms an extensive range: the extreme western point of which is near Honiton in Devonshire; from whence it passes through Wiltshire and Bedfordshire, to Cromer on the coast of Norfolk. It appears again in Lincolnshire, extending to Flamborough Head in Yorkshire. From its western point at Honiton it also bears to the south-east, passing through the centre of the Isle of Wight. Another range commences in Berkshire, and extends to the coast between Folkstone and Dover; sending off in its route a branch at Alton, and terminating on the Sussex coast in the picturesque cliffs of Beachy Head. Nodules of Flint

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are seen deposited in regular layers through the Chalk at the cliffs of Dover and Brighton, and in the quarries throughout the county of Kent; but there is no *mineral* Coal found within many miles of the Chalk formations. Perhaps the nearest will be that in the vicinity of Bristol.

In its passage through Berkshire and Oxfordshire, Chalk forms the range of hills known by the parliamentary name of the *Chiltern Hundreds*.

The lofty cliffs of this formation are subject to repeated falls, from being undermined by the action of the waves. See verse 434.

453. Reposing on the Chalk formation of the southern and south-eastern parts of England is a series of depositions, consisting of Marl, Clay, Sand, and Pebble beds; and described by Mr. Webster in the 2d volume of the Geological Transactions as occupying the basins of London, and of the Isle of Wight.

The most striking feature of these depositions is that which occurs in the Isle of Wight; where we find a series of strata, nearly 40 feet thick composed of marly Clay containing marine shells,

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"Interposed between two stratified masses of marly Limestone of still greater thickness, each of which is full of fresh-water shells, similar to those which exist in our rivers at present."

Beneath these deposits occurs the *London Clay*, containing beds of ferruginous Marl Stone, called *Septaria*, which are used for the purpose of making Parker's Roman Cement, and affording in the Isle of Sheppey more than 700 varieties of fossil plants and fruits, impregnated with Pyrites; and at Hordwell Cliff in Hants, some hundred varieties of marine shells, in high beauty and preservation, similar to those which occur in the neighbourhood of Paris, and in Italy, in the Plain of Lombardy, and along the whole extent of the northern and southern base of the Apennine Hills. In consequence of the decomposition of the Iron Pyrites with which they are impregnated, the fossil plants of Sheppey usually fall to pieces after a few months' exposure to the atmosphere: the Pyrites forming green vitriol, which is a salt soluble in water, and sometimes contaminating the surface water of the Sheppey cliffs.

This bed of Clay occupies a considerable area

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near London, which stands on it. It forms great part of the county of Essex, and the hills of Highgate, Sydenham, Shooter's Hill, and Richmond Hill.

The height of the cliffs composed of it in the Isle of Sheppey, added to the depths of wells sunk near it, shows the London Clay at that place to be 550 feet in thickness. Beneath the London Clay, and dividing it from the Chalk, is a series of alternating beds of Sand, Pebbles, Marl, and Clay; which have been designated by the title of the *Plastic Clay Formation*, and which are displayed at Blackheath and Woolwich near London, at Reading in Berkshire, and in a vertical position in great beauty and thickness at Alum Bay in the Isle of Wight. The clay obtained from this formation is much used in the Potteries; whence the title of Plastic Clay has been assigned to it. The same Plastic Clay reposes immediately on the Chalk near Paris.

It should be remarked that beds of Marl are not confined to the series of depositions we have been speaking of above the Chalk; they occur subordinately in almost all formations, from the Chalk downwards to the old red Sandstone. Mr.

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Phillips in his "Outline of the Geology of England and Wales" (by far the best compendium of English Geology that has yet been published, and occupying only a thin 12mo. volume) mentions a bed of blue Marl, as extending beneath the Chalk, from near Salisbury to the north-western coast of Norfolk, with the interruption only of the low marshy grounds of the Isle of Ely. Marl of an excellent quality is found in large beds in some counties of England, composed almost entirely of decayed shells.

498. Calcareous Spar attends all the kinds of Limestone, but is most abundant in the Mountain Limestone. The forms of its crystallisation are very numerous; all originating from an obtuse rhomboid; which rhomboid may be readily obtained by cleavage. But it is not often found in the form of this its *primitive* crystal. It is a *carbonate* of Lime (i. e. Lime combined with the carbonic acid). That which is met with only in Derbyshire, and from which the vases are formed, is a combination of Lime and the fluoric acid.

577. Gypsum occurs occasionally in the beds of blue Clay which exist in all the English secondary formations; but is most abundant in the red

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Marl beds of the new red Sandstone series. Here it often assumes the character of Alabaster, a mineral which in England occurs only in this stratum, and abounds in Derbyshire, Yorkshire, Nottinghamshire, and the Plains of Carlisle and Cheshire. Rock Salt accompanies it in the latter county.

The Alabaster and fibrous Gypsum of Derbyshire, form a valuable material for ornamental purposes.

602. Selenite, or crystallised Gypsum, is found occasionally like fibrous Gypsum in the Clay beds of all the English secondary formations. It is collected for cabinets chiefly at Alston Moor in Cumberland, and in Derbyshire; but the finest crystals are met with in blue Clay at the base of Shotover Hill, near Oxford.

613. For the description of the Lias Fossils, see the note on the Limestone Family.

652. For the relative situations of Chalk and Coal, see the same note, under the head *Chalk*.

693. For the account of the organic remains in the London Clay, see the note on verse 453.

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864. Basalt has been the subject of considerable difference of opinion in the scientific world, whether it should be considered of igneous origin, or the result of aqueous deposition. The examination of different basaltic districts has seemed to favour alternately each hypothesis; and has consequently induced those persons who have not blindly attached themselves to any favourite theory, (considering an impartial survey, and a careful comparison of facts as the only true basis for theoretical opinion,) to regard *both* causes as having occasionally concurred in its formation. It appears however, at all events, not to have been subject to the law of regular stratification: in some cases appearing in incumbent masses of greater or less thickness and extent, and in others like walls, dividing the strata at angles of various inclination to their horizontal course. These latter are what the miners in the north of England (where Basalt seems most abundant) call *dykes* or *troubles;* as they generally produce a disruption and shift of the strata, sometimes elevating, and sometimes depressing them. Basalt has a peculiar tendency to assume a columnar arrangement, the effect of a process somewhat allied to incipient crystallisation. There are few, if any instances of great regularity in this kind of form-

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ation in England and Wales: perhaps the nearest to it may be met with on the banks of the river Tees in Durham, and on the summit of Clee Hill in Shropshire. The finest instances of perfect columnar arrangement are to be seen at the Giant's Causeway and at the Promontory of Fairhead, in the north of Ireland; and at the Island of Staffa, one of the Hebrides. At which latter place is that most sublime and impressive natural curiosity, the Cave of Fingal.

865. Greenstone is a *compound* of Felspar and Hornblende, but varying extremely in its appearance; being sometimes so fine grained, as to appear *homogeneous*, like Basalt. It is met with in many parts of England, resting immediately upon Granite. It appears at the Lizard Point in Cornwall. It accompanies the Clay Slate on the northern side of Cader Idris in Wales, displaying a columnar formation, but in singularly confused positions. In Derbyshire it is in contact with Limestone. It is found also at the Cheviot Hills in Northumberland: and, like Basalt, it also forms dykes or veins in Coal fields.

865. Whin, or Whinstone. A term given to the preceding unstratified rocks in the north of England

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and Scotland; and used by Dr. Hutton. By the Wernerian School they have received the appellation of Trap Rocks, ("*Trap*" in German signifying "*a Stair*,") from their tendency by exposure to the elements to take the form of steps or stairs.

866. The Zeolite family, of which there are several members, (whose distinguishing character is that of *gelatinising with nitrous acid*,) is found exclusively in Trap Rocks; either in globular and radiated concretions, or, crystallised, lining cavities.

The above are the *chief* Geological formations in England and Wales, and, with the exception of the two immediately preceding, exhibit the features of the country, in travelling from west to east, that is, from the oldest to the youngest in the series. The regular stratification of England, speaking upon the great scale, dips to the south-east, and rises to the day in the opposite direction; but where any regular strata occur on the western side of the range of primitive rocks that pass from Wales through Westmoreland and Cumberland, it is remarkable that the order is there reversed; and, rising to the south-east,

they dip towards the Irish Channel. There is but one more formation to notice, viz. the beds of Alluvial Deposit consisting of Gravel, sometimes mixed up with Sand and Clay.

Deposits of Gravel, or fragments of different rocks rounded by the action of the Diluvian waters, are universally diffused over the surface of the other rocks, covering them all indifferently, in all the valleys of the world. These appear to have resulted from the last revolution the earth has undergone; and it is in these almost exclusively, with the exception of the beds near Paris, that the remains of land animals are found in a state that indicates a very recent origin.

Many animals now supposed extinct, and many others not existing in northern latitudes, such as elephants, hippopotami, rhinoceroses, mastodons, elks, buffaloes, stags, are found buried in the gravel of all the great valleys of Europe and America; and in vast abundance on the icy shores of the coast of Siberia. A few years since, the entire carcase of an elephant of an extinct species was developed in an ice-berg on the coast of Tungusia, in Siberia. Its flesh was in a perfectly

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fresh state, and was immediately eaten by the bears. Some of this flesh is to be seen adhering, in a dried state, to the head of the animal; which, with the entire skeleton, is preserved in the public museum at St. Petersburg. A plate of it is given in the 5th vol. of the Mem. de l'Acad. of St. Petersburg.

The occurrence of the fossil remains of quadrupeds in these the most recent deposits is a subject of such great interest, that it will readily excuse a slight deviation from the general plan of these notes, which is restricted to the notice of facts observed in England only. Viewing the subject generally, the following may be offered as a tolerably complete list of the animal remains hitherto detected in such situations, arranged according to the method of Cuvier.

I. Of the order Pachydermata, we find—A. Two species of elephants; both differing from the recent species, and probably the inhabitants of a different climate, being met with principally in high northern latitudes.—B. The mastodon or mammoth; a genus which at present appears to be extinct, but which is allied to the elephant by being furnished with a proboscis and tusks. Five species have been ascertained of which

one, found in the swamps of the Ohio must have exceeded the elephant in size. Some of the other species are common to the new world and the continent of Europe; and the teeth of one at least have been observed in England. C. A species of rhinoceros differing widely from the recent; and found both on the continent and in England. D. Two species of hippopotamus; one small, and certainly different from any recent species. Remains of both appear to have been found in England. E. The tapir, of which only one recent species is known, presents two fossil species; one of them gigantic. These have been found in the south of France, and near Vienna.

Thus the single order of Pachydermata exhibits the surprising phenomenon of the discovery of entirely new genera; of new species of the known genera; of those now peculiar to the torrid zone, found on the coast of the frozen ocean; and of those now confined to the new world, buried in the soil of the old.

II. Of the order Tardigradi or Sloths, we find in the new world two fossil genera, both now extinct, and one of them considerably larger than the ox. This, the megatherium, has been discovered in

South America; the other, named the megalonyx from the enormous size of its claws, was found in a cavern in Virginia.

III. Of carnivorous animals, a hyena, differing from and larger than the recent species; and the bones of tigers have been observed on the continent of Europe.

IV. Of the order Solipedes, the bones of the horse are very common in alluvial deposits; and are found so mingled with the remains of the non-existing species, that they cannot be considered as parts of the skeletons of animals of this kind only lately deceased.

V. In the order of Ruminants, a large species of buffalo; the celebrated Irish elk, distinguished by its enormous antlers; and two species of stags; all differing from any recent species, have been found: together with other species of the buffalo, ox, and stag, agreeing with those actually existing.

One of the most curious alluvial deposits of the continent is that near Canstadt, in the vale of the Neckar. Here the bones of elephants, hyenas, rhinoceroses, and of the common horse were found mingled together;

and close at hand an immense subterraneous forest of *Palms* was disclosed.

Subterraneous forests are also frequently found buried beneath the alluvial deposits of this country; but most usually of trees still indigenous. It is a most curious fact, that these often occur in marshes lining the coast at levels beneath even that of low water; and may thus be traced extending beneath the waves.

Next to the animal remains contained in alluvial deposits of gravel, the singular remains of carnivorous animals preserved in the caverns near Bayreuth in Germany deserve to be mentioned. Two species of bear, both differing from the recent, and one rivalling the horse in size, are here found, together with the same hyena before mentioned as occurring in the alluvia of Canstadt. Cuvier, describing these facts, enquires, "At what period was it that the elephants, and hyenas of the Cape, of the size of our bears, lived in our climate, and were shaded by forests of palms? Or in which they took shelter in caverns along with bears as large as our horses?"

In many places the fissures of older rocks are occupied by a Breccia of very recent formation (perhaps even still proceeding), which contains numerous bones, principally of ruminating animals. Gibraltar affords

well-known specimens of this kind; as also do Arragon, the Veronese, Nice, Antibes, Cette, Corsica, and Dalmatia. The Gibraltar bones belong chiefly to a single species, a small ruminant resembling the deer. Only one instance of bones found in such situations differing from the recent is known, in the lagomys of Corsica.

The human skeleton found imbedded in stone on the beach at Guadaloupe, and deposited in the British Museum, is to be ascribed only to the process of consolidation which is daily going on in the loose calcareous beach of that Island; and by which it should appear that the skeleton of some corpse, recently and accidentally thrown or interred there, has been arrested and fixed. No authenticated instance of any human bones having been found in a fossil state occurs.

Almost the only instance of land quadrupeds being found in the solid strata (as distinguished from the above alluvial deposits) is in the Alabaster beds of the neighbourhood of Paris; which are among the most recent formations, posterior to Chalk, and which contain several species of the palæotherium, and anoplotherium; two extinct genera of the order Pachydermata, approximating to the daman and rhinoceros; together with remains of ruminant and carnivorous animals, and the bones of five or six species of birds.

☞ The foregoing pages contain an enumeration of the chief rocks of this country, or such as occupy the greatest space and range: these which follow being either of smaller dimensions, and less frequent occurrence; or being enclosed in larger rocks, or forming constituent parts of them.

VERSE

886. Hornstone. A tough silicious stone, of a grey colour, but often intermixed with various tinges, imbedded generally in Limestone; sometimes in considerable masses. It is so found on the banks of the Menai, in Caernarvonshire. Wood petrified by Hornstone, thence termed Wood-stone, is met with in ferruginous Sand near Woburn, in Bedfordshire, and near Nutfield in Surry.

888. Chert. Is considered to be allied to Hornstone. Its general colour is grey, with a waxy or greasy lustre, and translucent on the edges. It is found imbedded in green Sand in the Cliff at the Western Lines in the Isle of Wight, and in the eastern parts of Devonshire, and at Lyme in Dorsetshire. It is found in this country principally in the form of subordinate beds and nodules in the green Sand and Mountain Lime form-

VERSE

ations: and in both these it occurs abundantly. It is also found in the Lias of Glamorganshire, and in the Oolite of Yorkshire: but is rare in both these last formations.

890. Jasper. The circumstances under which Jasper is sometimes found, seem to favour an opinion that it may in a few cases have been formed from Sandstone, in a state of fusion from the contact of a heated mass. See "Playfair's Illustrations of the Huttonian Theory."

Such cases, however, are very rare, and occur only in rocks that are in immediate contact with Trap.

892. Agate. Is found usually in nodules, of various sizes, filling cavities in the Trap rocks; and is rare in those of any other formations. Pebbles of Agate, probably derived from decayed Trap rocks, are found on the sea-shore, and in the beds of some rivers along the northern coast of England. What are termed Moss Agates (from being pervaded by very fine mineral ramifications, resembling Moss) are principally found on the sea-shore at Scarborough and Whitby, in Yorkshire.

VERSE

896. Felspar has been already mentioned as forming a chief constituent of Granite, Gneiss, Porphyry, Sienite, and Greenstone. Compact Felspar is also met with as a separate rock, though not of any extent, in Westmoreland, and at the Cheviot Hills; in the neighbourhood of which latter places are also found masses of Breccia, composed of its angular fragments. There is a variety of Felspar from the coast of Labrador, remarkable for its brilliant play of the prismatic tints; in some directions presenting a perfect flame colour.

900. Steatite, or Soap Stone. Is of a grey colour, and a singularly unctuous feel; and is abundant in the Serpentine of Cornwall: also running in veins through the same rock in the Isle of Anglesea.

902. Tufa. Is the most impure, irregular, and porous of all the varieties of Carbonate of Lime; and is deposited daily by streams impregnated with that substance. That fine deposition of calcareous matter, from certain waters in Derbyshire and many other places, upon articles immersed in them; and which bears the appearance of petrifaction, is a kind of Tufa. In masses it is generally light and cellular; but is sometimes compact enough to be used for building.

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904. Asbestus usually accompanies Serpentine, and is found with it in Anglesea, and at the Lizard in Cornwall. Amianthus, from whose slender fibres the ancients wove a kind of cloth, that was imperishable by fire, and in which they burned the dead, that their ashes might be preserved, is a variety of Asbestus.

904. Talc somewhat resembles Mica in appearance, but the plates into which it is divisible are not *elastic*. It is unctuous to the touch, as are most of those minerals that contain a considerable portion of Magnesia, and is met with, in this country, in Serpentine at the Lizard Point.

905. Clinkstone. Is a variety of Basalt, that upon being struck with a hammer gives a ringing metallic sound. It is of a dark colour, and usually columnar: attends the basaltic formations of Scotland and Ireland, and is of very rare occurrence in England or Wales. But is said to be found at the Breidden Hills, in Montgomeryshire.

906. Hornblende is of a greenish black colour, and shining lustre; and is generally met with as composing part of Sienite, Basalt, Greenstone, and volcanic substances. It may be known by

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being struck with a harder body, as the bruised part appears of a much lighter hue, and earthy.

907. Toadstone. A spotted rock, known by that name only in Derbyshire, and analogous to the variety of Trap Rocks called Amygdaloid in Scotland and elsewhere, and nearly allied to Basalt. It is usually of a dark greenish-brown colour; varying greatly in hardness and density; exhibits few or no symptoms of stratification, but intersects the Mountain Limestone of that county in different directions; appearing at the surface at Castleton, and some other places. It is sometimes porous, and the cavities being filled with Calcareous Spar and Zeolite, give it a speckled appearance; whence it derived its name.

908. Swinestone. A species of Limestone, thus called from the strong fetid odour given out, when scraped or rubbed. It is of various shades of grey, brown, and black. It occurs in Shropshire and Northumberland, in beds in Mountain Limestone; and the steep banks of the Avon at Clifton, near Bristol, contain thick strata of it. Its offensive odour is attributed to the presence of sulphuretted hydrogen.

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914. Shale is a soft Slate, of a very brittle quality, and a dark iron colour; accompanying the oldest Coal deposits, and generally *overlying* the Coal itself. Shale, but of a paler colour and firmer texture, very frequently occurs above and between the beds of white and blue Lias, where it sometimes contains fishes. In Derbyshire a thick stratum of Shale is found reposing immediately on the upper Limestone, and is commonly called the Limestone Shale; and that which accompanies the Coal measures is called Coal Shale, or *Plate.*

935. Breccia is composed of Flint, Chalcedony, or Limestone, united by a cement usually silicious or calcareous; and of finer grain than the imbedded pebbles. Beds of Breccia occur in many formations from the Grauwacké upwards. To a silicious variety found in Hertfordshire, and formed of dark and variegated Flint Pebbles, set in a whitish ground, of so fine a texture as to admit of a high polish, the name of *Plum Pudding Stone* has been given.

990. For the organic remains in alluvial deposits, see the note at page 71.

Geology has but lately occupied the public attention in this country; and though much has been done within the last few years towards investigating our mineral treasures, yet a very wide field for scrutiny still remains. It were to be wished that the observations of enlightened individuals could be directed to limited districts; and their memoranda be afterwards compared, and united into Mineralogical Histories of the several counties. By which means a great body of information would be produced, not only highly interesting to the naturalist, but highly serviceable to the agriculturist, the miner, and the landed proprietor

THE

COUNCIL OF THE METALS.

Well have ye judg'd, well ended long debate,
———————, and, like to what ye are,
Great things resolved; ———————

MILTON.

THE

COUNCIL OF THE METALS.

THE levee broke up:—but no order it knew;
'Twas "a word to the wise,"—so they *quickly* with-
drew:
'Twas a scene of confusion, of blows, and disgraces,
And few were the rocks that got *safe* to their places,
Some were wofully rent,—some were mingled in
kind,—
And some thrown all on edge,—as at this day we find.
When Sir Lawrence came puffing, and pretty well
shatter'd,
With soot and with ochre too highly bespatter'd,
To the hall where the METALS were loud in debate,
Discussing affairs that pertain'd to the state.
Baron GOLD look'd aghast,—who had taken the chair,—
And the rest show'd their pow'rs at a grin and a stare:
When the knight wip'd his brow,—he was dismally
heated,—
And begg'd,—with the president's leave,—to be seated:

Then open'd the case. "Ye may well look surpris'd!
"'Twas a sorrowful thought, when King Coal ye
despis'd:
"Why he deals with the devil, — and quickly he'll give
"Every one a *warm* jacket, as sure ye live.
"I thought Giant Gravel had sober'd him well;
"When so loudly he rang out his funeral knell;
"But he rose twice as fierce; and soon drove us pell-
mell.
"Had ye seen but his glare, — and what earthquakes
he rais'd!
"— That I'm out of his clutches, oh! Heaven be
prais'd!"
Here exhausted he sank; when the president roar'd
For some true "baume de vie" — and the knight was
restor'd.
But now rose the question, in full consultation,
— All talking together in some consternation, —
Of what should be done, — since the thing was no jest:
Some thought to appease the dark monarch was best;
Some dubiously hung; a few sneer'd at his thunder,
And deem'd it would sully their fame to knock under.
But since matters can seldom be well understood
When all speak together; — 'twere strange if they
could; —
It was settled, to see how opinions might chime,
They should e'en play the orator — one at a time.

Baron GOLD, from the chair, made a *shining* harangue,
Amid sounds of "hear, hear,"—which in rapture they sang.
Sir Solomon SILVER his sentiments told
In a *bright* little speech,—but *inferior* to GOLD.
Matt. MERCURY thought it were best to assent
To the sway of King COAL, and his wrath to prevent:
And offer'd the message submissive to bear,
Since the good of the METALS was ever his care.
Captain COPPER on this begg'd permission to speak,
And the *blush* of resentment was seen on his cheek,
Whilst firmly protesting that not with *his* will
Should MERCURY ever such embassy fill:
Nay, he swore that the sycophant lov'd but himself,
And he call'd him, in public, a *slippery* elf.
He accus'd him of keeping low company too,
That *Sulphur*, from whom every Englishman flew;
That to bring such a fellow, was very intrusive:
—In short Captain COPPER was vastly abusive.
Then gravely rose IRON, with countenance *hard*,
"—He fear'd not King COAL,—and should stand on his guard;
"But as nearest allied to PYRITES, he hop'd
"An arrangement was near, and all feuds would be dropp'd.
"Though he trusted the last to consult his own ends
"*He* should ever be found;—and would vote with his friends."

Tin argued at *length*; and though clear in his plan,
Yet his reasoning to too great *tenuity* ran:
When Lead at Sir Lawrence's chair took his station,
And gave them a wofully *heavy* oration;
All tending to prove this self-evident thing,
"—They had *weight* on their side, and might crush
the proud king."
At last his dull speech in displeasure he clos'd,
For, on looking around, there were few but had doz'd.
Then up stood *dark* Zinc, who was funny and *short*,
And being no orator, made them some sport:
Declaring, that should the king marshal his Gnomes,
The Metals would drive the black brats to their homes!
Titanium then rose; he was youthful and weak,
And he thought, as a copy of Silver, to speak:
But each smile in the hall quickly chang'd to a frown,
And — as done in the Commons — they soon *cough'd*
him down.
Then Cobalt stood up, and *his* speech he would read;
So he pull'd forth a paper, in haste to proceed,
But no sooner they saw him this action pursue,
Than they rose in dismay, and to stop him they flew;
For he dealt so in *Arsenic*, it well might appal,
And they thought he intended to poison them all.
Then Tungsten, who always had seem'd very *bright*,
Spoke next; but he shed no additional light:
'Twas an echo to Iron; — they then recollected
That Iron and he were quite closely connected.

Then NICKEL would fain his opinion divulge,
But they fear'd in some fanciful *flights* he'd indulge;
So the Baron stood up, and, with all due decorum,
Begg'd NICKEL would stick to the subject before 'em.
But though grace and reproof were most happily blended,
Mr. NICKEL sat down; — he was highly offended.
MOLYBDÆNA quite warm, and URANIUM rose,
And from words the dispute would have ended in blows,
Had not BISMUTH,—who always could *solder* division,—
Interpos'd, and referr'd to the Baron's decision:
Who instantly bade all such bickering cease,
And nodded in turn to the *grey* MANGANESE.
Now he was a wight whom with reverence they view'd,
Whom the lessons of life had with wisdom endued:
He had wander'd afar, through *all Europe* had stray'd,
And earth's sons had, *in arts*, long acknowledg'd his aid.
He was sparing of words, — for he oft would observe,
"—That the tongue, unless bridled, is given to swerve:"
But since call'd to the task for the good of the state,
He strok'd his long beard, and thus join'd the debate.
" It has ever appear'd, as I travell'd through life,
" That between folks disparted there seldom is strife.
" King COAL has vow'd vengeance because we decline
" To hail and obey him, as prince of the mine.
" Now, to turn all his threats into nought, I should say,
" The best plan would be — to keep out of his way."

He ended; and loud acclamations were heard,
"—What logic!" "What wisdom!" "What force in each word!"
All voices declar'd further cavil should cease;
All sounded the praises of grey MANGANESE;
And as for King COAL,—'twas agreed not to fear him;
'Twas settled, *nem. con.* they would never come near him!
Then the council dissolv'd: they sped separate ways,
But not till the Baron, in elegant phrase,
Had address'd their condolence and thanks to the knight:
Who was led out by ZINC in indifferent plight.
But how seldom when many are join'd in debate,
Of the pilots that stand at the helm of the state,
Though professions, like manna, fall softly around,
And the lip sweetly breathes unanimity's sound,
Will sincerity in *every* bosom be found.
To the *letter* they strictly adhere, just to serve
As a mantle, when wide from the *spirit* they swerve.
Now though IRON agreed not to visit the King,
To provide for his sons was a different thing:
With the vote that he gave for the good of the nation,
He had mentally treasur'd this slight reservation.
So he sent for Jack CLAY, — who was always at hand
When the METALS, rich souls, would his service command, —

And he gave the young fry to that dandy's controul,
To be taught a few airs, and to wait on King COAL:
With an elegant note, that he trusted would clear him,
For he only had promis'd he ne'er would *come near him.*
They went;—and they found the King quaffing his ale,
And enjoying his pipe by the side of old SHALE:
They were rather surpris'd that old SHALE was his friend,
But bethought them, that kings sometimes love to *unbend.*
CLAY spoke;—and in patience the King heard him out,
Though he scarcely could tell what CLAY's speech was about:
However, he kindly approv'd the connection,
Consigning the brats to his crony's protection. *

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* Thin argillaceous strata containing spheroidal nodules and flat masses of clayey Iron-stone occur subordinately in many of the Shale beds of the great Coal formation, and at this time supply the principal Iron Founderies of Britain with Ore.

The nodules often contain a vegetable nucleus, from which they derive the outline of their external form. This nucleus is usually a leaf or fragment of some of the plants that occur abundantly in Coal Shale, and which also constitute the entire substance of the Coal itself. The traces of vegetable structure are usually lost in the beds of solid Coal, in consequence of the pressure and chemical changes that have taken place; but the Shale is crowded with lively impressions of vegetables, generally leaves, of which the substance is converted into Coal. In these cases the leaves are separated from each other by a very thin lamina of Shale: but in the absence of

SHALE wove them a bow'r — that large *palm-trees* surrounded, —
And with *ferns* quite gigantic its area bounded.
A passion for plants had so grappled his soul;
That an old *Hortus siccus* each spare moment stole:

---

such intervening lamina the altered vegetables have become confluent, and their form is generally obliterated. See Parkinson's Organic Remains, Vol. I. for an account of the natural process by which all vegetable matter is convertible to Coal.

Perhaps one of the most striking phenomena of Geology is that enormous mass of vegetable matter which has been accumulated, at a very early period in the history of stratification, to compose our Coal beds. In this Island alone many thousand square acres contain beneath them strata of Coal accumulated above each other, sometimes to the number of 40 or 50, and disposed like beds of stone in a quarry, and alternating with strata of Shale and silicious Sandstone. In both the latter vegetable remains are thickly disseminated, but not in quantity sufficient to be of any use. They also form separate laminæ or strata of vegetables converted to pure Coal, varying in thickness from a quarter of an inch to 30 feet and upwards. Coal is seldom worth working unless its thickness exceeds one foot. The thickest bed of Coal in this country is at Dudley, where there is a stratum (called the *ten-yard Coal*) which measures sometimes 12 yards in thickness of solid Coal. Its extraordinary thickness is supposed to arise from the union of three smaller beds, without the interposition of the usual Shale and Sandstones.

The ordinary thickness of good Coal beds is from four to six feet.

The history of the origin of these accumulated masses of vegetable matter, so admirably treasured up for the use of mankind, forms one of the most difficult problems of Geology. We find in them the wreck of various genera of vegetables, (many of them apparently tropical, others growing in colder latitudes,) confusedly mixed

For which he had ransack'd the swamps and the meads,
Till his *Hortus* was richest in *grasses* and *reeds*.
But a strange antiquarian whim he display'd;
From the simplest of plants his selection was made;
And of structure primeval like none we descry
'Mid the bountiful gifts that the seasons supply;

---

together in the same stratum. They seem at their formation to have been strewed over vast spaces, at the bottom of the then existing ocean in regular strata, alternating with much thicker strata of Shale and Sandstone: the whole of which have since been much disturbed and broken by violent agents, probably acting from beneath.

The nature of the enclosed vegetables is also extremely singular, and is as yet little understood. They seem, however, to consist entirely of plants of the most simple structure (monocotyledonous or acotyledonous), and may be referred principally to reeds, grasses, canes, equisetums, palms, and ferns. Plants of this kind display no trace of that more solid and compound texture which we find in timber trees and the dicotyledonous genera; exhibiting in their interior concentric rings, a central medulla, and medullary radii; whilst the substance of the monocotyledonous plants is disposed in fasciculi of longitudinal fibres, having a central open cavity like a cane or reed. Of modern plants these latter include some of the most elegant tribes, usually having a smooth, delicate, and tapering form, and being graceful in their proportions.

Many species of the fossil ferns seem to have attained the gigantic stature which some species of that genus now arrive at in tropical climates. Many Coal plants resemble in outward form the stems of the cactus tribe, and are covered with an infinite variety of flutings and lozenge-shaped configurations, containing points that apparently formed the bases of their spines or leaflets: but the history of these plants is not yet understood. Perhaps not one of the fossil Coal Plants can be proved to be absolutely identical with any now existing.

Nor confin'd he his search, — for the earth widely knew
From the poles to the tropics the treasures he drew:
Which long in his cabinet hoarded so slily,
As an ancient *Herbarium* are priz'd very highly.
To SHALE then the urchins were duly consign'd,
Who found them at once to his studies inclin'd:
And with him and King COAL in these regular ways
They liv'd snugly enough all the rest of their days.

The oldest rock in which we find the remains of solid wood is the Lias, in which are fossil trees of a large size, that were decidedly dicotyledonous. They occur also in all younger strata, from the Lias upwards; but their identity with any existing species has not yet been established.

BARON BASALT'S TOUR.

——— despatch me hence:
Come, answer not, but to it presently:
I am impatient of my tarriance.

SHAKSPEARE.

NOTE.

THE following attempt seemed necessary to complete the outline of the Geology of England and Wales, in a point which "King Coal's Levee," from the nature of its plan, was not able to embrace; viz. the localities of the principal *primitive* and *Flœtz* Trap formations.

The author regrets the want of diversity in his subject; which, had he not aimed as much as possible at *compression*, might have been rendered somewhat less apparent. — With this remark, he consigns it to the public indulgence.

BARON BASALT'S TOUR.

I.

LIST to the tour that was nobly plann'd
By Baron Basalt through Albion's land.

Baron Basalt was great in fame;
From Sir Tristrem Trap his lineage came;
Whom the annals of science held in birth
Equal to any child of earth:
A stout and *primitive* old Don,
Till the flood he jogg'd merrily on;
Then, though neither bow'd nor chang'd,
His upper works were a little *derang'd*.
The Baron was proud of his pedigree,
Which was as high as well could be;
Though not for centuries backward it ran
— Like the Chinese race — ere the world began.
Beetle-brow'd, like his starch'd old sire,
Hard of heart, and quick in ire;
Was his mood but slightly cross'd,
Sparks of wrath around he toss'd.
Domineering in temper, he spurn'd the green vale,
And strove, through our realms to be first in the scale.

II.

He rose with the dawn, and the welkin he eyed;
"—Enough;—'tis my pleasure now southward to ride:
" Summon Zeolite hither; — fly, slaves, at my call;
"— Lead Atlas and Skeleton round to the hall."
A word was enough,
Away ran the slaves,
For the Baron look'd gruff,
As the storm-driven waves:
And in Zeolite tript,
At the tail of this racket,
Like a Cupid equipt
In a pink sattin jacket.

III.

Forth stept the proud and princely wight,
In broider'd surtout richly dight:
With trowsers, that might well have stow'd
A week's provision for the road
Their snowy folds among:
With boots, of which each well-shod heel,
Garnish'd with massive spur of steel,
Upon the pavement rung.
And on his frizzled seat of sense
A cap sat paramount, from whence
Two silken tassels hung;
That o'er his cheek, of swarthy shade,
And with his black mustachios play'd.

His hunting-whip of wondrous size
Unfurling to the breeze,
He fix'd on Zeolite his eyes,
And with a nod, austere and wise,
He spake such words as these: —
" Babbler, my equipage prepare,
" Viands choice, and essence rare;
" Such as flights of spirit bear,
" Such as please the blushing fair;
" Aiding in the man of grace
" The witcheries of tongue and face."
He ceas'd, and e'en a smile appear'd
Upon his lip to beam;
As wintry days are sometimes cheer'd
By the sun's transient gleam.

IV.

His will was the law, — for in thunder it flow'd;
His command was performance; — on Atlas he strode,
And females and children all fled from his road:
For he rose on the sight like some ruthless marauder,
Whom Scotia of old launch'd in ire from the border;
Whilst on Skeleton's back little Zeolite sat,
— With his visage so sharp, and his high-pointed hat,
And his legs, shrunk in strife from the scabbards they bore, —
Like famine, that follows the footsteps of War.

From the border they came, and at Cheviot's base
They appear'd like the genii that rul'd o'er the place:
They reach'd the green summit, and east-ward their view
O'er the fertiliz'd vales of Northumbria threw.

V.

Away thence they sped to St. Cuthbert's fair isle,
Where the wave idly foams round its turretted pile;
But now ocean was lull'd, and the wind on its breast
Was soft as the sighs of an infant at rest.
Then to Belford they rode, and they joy'd in a peep
O'er its flower-tufted crag, so romantic and steep;
And to Spindlestone came, — where the champion so stout
Saw a reptile creep in, but a lady creep out, —
(Oh! few, in these days, would urge service and suit
Through such trial of taste, — such a slimy salute!)
Till they track'd the red sun to his western parade,
And Bamburgh's proud walls were the halting-place made.

VI.

They rose with morning's bright career,
From those grey turrets to depart,
— Where meek-ey'd Pity bends to cheer
The shipwreck'd seaman's heart, —
And o'er the bosom of the deep
To the Farn Islands gaily sweep.

The Baron there got his cap well lin'd
With eider-down to nurse his brain;
By which his intellect, refin'd,
Started quite fresh again:
But since no Boswell's aid he cherish'd,
All his bon-mots — alas! — have perish'd.
But whilst he grappled each eider-duck's nest,
Zeolite suck'd the eggs;
Till the varlet grew so sick at last
He scarce could keep his legs:
And when they homeward came afloat,
He grac'd the bottom of the boat.

VII.

The Baron to Dunstanborough came,
Like Guy the Seeker, with eye of flame,
And with locks of the raven hue;
But no strange perils of day or night
Deaden'd his glance of living light,
Or chang'd his tresses to silvery white,
Such as the Seeker knew:
The spell was broken that lit the hall,
And silence sat on the crumbling wall.
Thence to Ratcheugh Crag he pac'd:
— A little wilderness of taste
Dropt on the fertile lands,
And still, by ducal visits grac'd,
The hoary summit stands;

And peers above its fringe of green,
Yet stealing many a look between,
The placid patriarch of the scene.

VIII.

The Baron now enter'd King Coal's domain,
And he thought of an antient feud;
Nor strove he his vengeance to restrain,
But he harried the kingdom across, and again
His turbulent course pursued:
He mock'd at the monarch's angry call,
And almost bearded him in his hall.
Oh! long shall be seen in the realms of Coal
Those marks of the Baron's wrathful soul!
The King sent forth an armed band
To drive this outlaw from the land;
But they might march till leaves were brown,
(And summer *then* shower'd blessings down
On nature's fair and glowing breast,)
Ere sight could on the culprit rest;
For he was far from scenes like these,
Upon the peaceful banks of Tees.

IX.

He lav'd, beneath the sultry beam,
His stately person in the stream;
And long they trac'd its winding way;
Till, upward bubbling to the day,

— Through the dark-brown heather stealing,
Now half hid, and now revealing
Its limpid current to the ray, —
It shone, with sweet contrasted charm,
Like bracelet on an Ethiop's arm.
Twice they cross'd its eager route,
At Mickel Force, and Caldron Snout.

X.

Then to Cumbria's bounds they went,
Where huge Cross Fell its crest uprears;
Whose western brow doth well present
The furrows form'd by weight of years.
The Baron had scarcely trodden the hill
Till a plebeian half-starv'd band
Burst on his view, with voices shrill,
And welcom'd him to their land:
" *Odi profanum vulgus!*" he cried,
And bridled his courser round, in pride
On Dufton Pike they next were seen,
Within Westmeria's wild domain;
The rustics thought their guests had been
The Devil and Faustus, by their mien,
And on the neighbouring plain
Consulted by what darling trick
They could propitiate Old Nick.
Now Zeolite, on Skeleton,
Was what they fix'd their eyes upon;

They deem'd *him* Satan, perch'd in spite
Upon a miser's starveling sprite.
His horns were in his hat's high crown;
And his long tail was button'd down.
But whilst they were gazing, on worship intent,
O'er the hill-top the Baron and Zeolite went,
Nor were they once chas'd by the dastardly crew,
To see whether they *rode* off, or whether they *flew*.
And the same of Knock Pike to this day is reported,
—That the Devil and his Chum on that eminence sported.

XI.

The Baron to Castleton canter'd along,
Where he prowl'd its romantic allurements among;
The Dog-Star was raging,—a shade was a boon,—
And he enter'd a cave, from the fervors of noon:
But Atlas, when Eve's crimson mantle dropt o'er,
To Mount Sorrel his load of nobility bore.
Viscount Sienite there, a peer haughty in carriage,
Gave a grand ball and supper (the reason, his marriage
With the eldest Miss Slate) to a herd of *haut ton;*
And who found, by their *tact*, that the viands were *bonne*.
The Baron was greeted from every side,
And 'twas loudly propos'd he should waltz with the bride.
But it happen'd most oddly (alas, for his honour!
That he tripp'd up his partner, and fell plump upon h ;

And the Viscountess suffer'd so much, that 'tis said,
Ever since she has woefully droop'd in her bed.
We may guess pretty surely, since such was the case,
That he bustled as soon as he could from the place.

XII.

Scarcely Salopia's bounds he enter'd,
Where the Trap family were center'd,
Till cards of compliment came pouring,
Like hail, when Winter's winds are roaring.
His lofty cousins long'd to greet him,
With mantling cups of ale to treat him;
For fame had spread from sea to sea
His bacchanalian energy.
Lawley, Caer Caradoc, Ragleath,
Hope Bowdler too, and Steeraway,
Trusted that as he pass'd beneath
A friendly visit he would pay:
But Little Wenlock sent no less
Than note from *lithographic* press.
The Baron swerv'd not from his road
Had invitations doubly flow'd,
But up the Wrekin held his way,
And topp'd it at the close of day.
Forth sail'd its Lady, with a smile,
And order'd forth the flaggon;
The Baron spoke in pompous style,
And quaff'd like any dragon:

The Lady scarce knew which to think
Was most sublime, his speech or drink.
Whilst she for aptest words was seeking,
He toasted " all friends round the Wrekin,"
Nor flinch'd, till the butler came to tell her
That her guest had consum'd all the ale in the cellar.

XIII.

There liv'd on Snowdon an old miser,
Ap Shenkin Trap, no mortal wiser
In his own estimation:
Though owner of a *diamond* mine,
His household were as lank and fine
As any in the nation:
For they had all been starv'd by him
Into superior racing trim.
To him the Baron paid a visit;
And not at all surprising, — is it?
He was the miser's heir-at-law;
And hop'd full soon to lay his claw
On the old codger's savings:
He wish'd to see how stood his health;
To ease him under his load of wealth;
— Now these were *natural* cravings.
But, sooth, Ap Shenkin starv'd them out,
Till Zeolite just crawl'd about,
Most fashionably thin:

He gave them, to their roasted rats,
The rinsings of his cyder vats,
Spite of the Baron's din.
So off they went, thus pondering
— Your miser is a long-liv d thing!

XIV.

Up Cader Idris the Baron was sweeping,
Where a bright mountain-streamlet beneath him was leaping,
Scatt'ring its spray o'er the lichen and mosses,
— Just as life's pathway is sprinkled by crosses, —
When from Morgan ap Price Trap's abode on the hill
The sounds of the dinner-bell swung down the rill.
The Baron a board of good fellowship found,
Where the laugh and the clink of the goblet went round:
They were fir'd by his zeal, and each wav'd high his cap
As they roar'd o'er their mead, "To the glory of Trap!"
A double quart flaggon he lifted, and rising,
Toss'd it off to a drop, — whilst they shouted "Surprising!"
Each stood to the test, and "He never shall beat us!"
Burst forth on all sides. — 'Twas a perfect *quietus:*
Some lay on the ground; some half propt, but unable
To move hand or tongue; and some slept on the table.
"To horse!" cried the Baron; — "I mourn their condition:"
And he left the whole group *most confus'd in position.*

Now Zeolite cursing Ap Shenkin the while,
Had been lining his *corpus* in capital style!
And had lifted the ale-horn so oft to his noddle,
That his gait was a compound of reel and of waddle:
So that—since it was needful to follow his master,—
He was strapp'd on his charger, for fear of disaster;
And his master, to give it the finishing touch,
Preach'd, all the way down, about drinking too much.

XV.

The Baron conceived that a body, when heated,
Must be cool'd ere the process can well be repeated:
And with error of judgment no mortal can tax him,
For it seems 'tis a true philosophical maxim.
So away to St. David's bold headland he hied,
And splash'd like a drake in the billowy tide:
Whilst Zeolite stood with a cargo of towels,
And blest with delectable pains in his bowels:
For we seldom in pleasure life's moments employ,
Without paying toll for the scenes we enjoy.
But whether he died, and was turn'd to Welsh dust,
Or again had the comfort of moist'ning his crust,
In the manuscript whence these short notes are extracted,
No mention is made,—nor how Zeolite acted.

XVI.

The Baron then at Malvern stopp'd
To view Duke Granite's choice collection;

But from expressions that he dropp'd,
He did not think it worth inspection:
— Such specimens were ne'er disclos'd;
They were most sadly *decompos'd!*
From thence, it appears, he to Micklewood rode,
To call on a poor relation;
Which a soul of benevolence certainly show'd,
In a man of his pomp and station:
But the great *can* display condescension in this;
The honour is talk'd of, — and tells not amiss.

XVII.

Some say that from Torr Point he cast
His glance o'er southern waves at last;
And scandal speaks of a connection
Form'd with fair Madame Steatite,
Who was — if I remember right —
Beneath Earl Serpentine's protection.
But it could never be the case,
As he would scarcely have the face
To meet his Lordship at the Lizard,
Whilst *this* was sticking in his gizzard:
And there are reasons to believe
His Lordship *did* such call receive,
And that the Baron smack'd his claret
With mighty *goût;* — nor would he spare it:
And then, to lengthen out his dance,
Embark'd, like most great folks, for France.

NOTES.

VERSE

72. There is great reason to conclude that the summit of the Cheviot range consists of *primitive* rocks belonging to the Trap formation: but from the higher parts being covered by peat-moss, and the lower acclivities by alluvial soil, it is not easy to trace the exact line of separation.

74. Basaltic eminences form a striking feature in the country between Alnwick and Berwick. Besides those which have been formerly chosen for the sites of castles, (as at Dunstanborough, Bamburgh, and Holy Island,) Belford Crag, Spindlestone Heugh, the Farn Islands, and Ratcheugh Crag, particularly deserve enumeration. Dr. Thomson (says Mr. Phillips) refers the Basalt of this district to the *newest Flœtz Trap* formation of Werner, and considers it, in some places, to consist of Greenstone rocks.

121. The number of basaltic veins, or dykes, traversing the strata of the Coal measures, is very considerable; nor do they preserve any uni-

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formity in their direction. They dislocate the strata, throwing the beds of Coal up or down, sometimes to as much (in Northumberland and Wales) as from 50 to 100 fathoms; and greatly altering the nature of the Coal, when in contact.

137. A great assemblage of basaltic rocks is met with in Teesdale, from the source of the Tees to Egglestone. At Caldron Snout a basaltic ridge crossing the river occasions a succession of cascades for the space of 596 yards. Another range causes the cataract called the High or Mickel Force, precipitating the water from a height of 56 feet. The rock which here crosses the river is a coarse-grained grey Basalt.

150. The range of hills, of which Cross Fell is the highest point, consists of about 20 beds of Limestone, alternating with about 50 beds of Sandstone, 80 of Shale, a few thin beds of Coal, and *one* of Basalt (probably *Greenstone*); and are, in the whole, *2749 feet thick*. The lowest of them crop out on these hills, and are visible on the escarpment of their western side.

159. Dufton Pike and Knock Pike, two lofty and nearly conical hills, north-east from Appleby

VERSE

in Westmoreland, consist chiefly of a dark, compact, and highly ferruginous Greenstone.

178. The Toadstone of Derbyshire appears at the surface in several places; and Greenstone is said to be associated with it in a cave, near Castleton.

183. Some varieties of Trap appear, as accompanying the sienitic rocks of Mount Sorrel in Leicestershire, and the Granites of the Malvern Hills in Worcestershire. At the former place, the Sienite is closely connected with Slate, without any order of superposition. The Granite, at the latter place, is so greatly decomposed as scarcely to be recognised.

196. A Trap formation of considerable extent occurs in Shropshire. It constitutes the great mass, not only of the Wrekin, but also of the Lawley, Caer Caradoc, Ragleath, and Hope Bowdler hills. It has been divided under two heads, Felspar rocks and Greenstone rocks, of which the former are uppermost. Greenstone-Trap is described as forming two principal deposits in this county: the one constituting the chief mass of the hill on which the town of Little

VERSE

Wenlock is built, the other that of Steeraway Hill.

224. There are two principal *primitive* mountain ranges in North Wales; of the northernmost of which Snowdon forms the most elevated point, and Cader Idris of the other. The highest peaks of Snowdon are said to be composed of Porphyritic rocks of Trap formation, passing into nearly compact Hornblende. On Snowdon are found those highly transparent crystals of Quartz which, when cut and polished by the lapidaries, pass under the name of *Welsh Diamonds.*

248. The range of which Cader Idris forms the most elevated part, includes the mountains called the Arrans and Arennegs. The peaks and summits of this range consist of Trap rocks, succeeded by slates of various kinds extending to Snowdon. The northern side of the summit of Cader Idris exhibits numerous columns of highly crystalline Greenstone, varying greatly in dimensions, and remarkably confused in position.

278. Trap rocks are found near St. David's head, though the southern parts of Wales are chiefly occupied by the Grauwacké formation. That of

VERSE

St. David's head is considered to be *primitive*; its predominating colour is brownish green.

288. See note on verse 183.

294. At Micklewood, in Gloucestershire, is a mass called *the Old Rock*, rising perpendicularly to the height of about 30 feet, less than 300 yards wide, and extending in the other direction about a quarter of a mile. It is again met with to the north-east. This rock has an amygdaloidal character, containing plain and striped Chalcedonies.

300. Trap is very sparingly found in the western counties of England. A bed of Greenstone, in the composition of which there is much Steatite, is described as being enclosed in Clay Slate near Torr Point, on the southern coast of Devonshire; and some of the rocks near the Lizard Point, in Cornwall, partake greatly of the characters of Greenstone and Greenstone Slate.

THE END.

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Saccharometer

Fig. 1.

Weights of Saccharometer

Jar case
Fig. 4.

Fig. 5.

Assay Jar

Fig. 6.

Refrigerator

Fig. 2.

Thermometer in a Tin case

Fig. 3.

Thermometer with a scale Attached

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